TEXTILE BULLETIN

VOL. 64 JUNE 15, 1943 NO. 8

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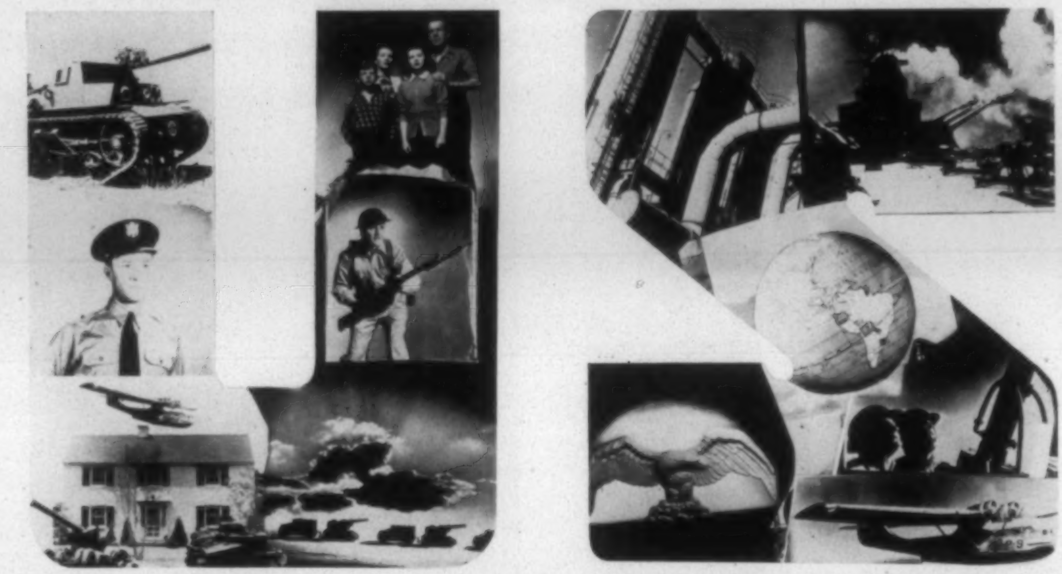
A Traveler for Every Fibre



On land . . . on sea . . . in the air . . .
at the fighting fronts and at home—

TEXTILES

are playing an important part
in the March to Victory!

Uniforms, tents, bed clothing, or Red Cross bandages will never make the headlines that are rightly accorded the spectacular feats of the Flying Fortresses, the General Shermans, or our fighting ships, but nevertheless these textile products are just as essential to the winning of the war.

U. S. Ring Traveler Company is proud to be numbered among the manufacturers who are supplying the equipment needed to make these products, and we pledge the industry our close cooperation in its efforts to complete, on schedule, the enormous task it has been assigned.

U.S. RING TRAVELER COMPANY

AMOS M. BOWEN, President and Treasurer

PROVIDENCE, R. I.   GREENVILLE, S. C.

Published Semi-Monthly by Clark Publishing Company, 218 W. Morehead St., Charlotte, N. C. Subscription $1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

THIS IS NO. 39 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

IMPROVED ROLLER BAIL PINEAPPLE CONE ATTACHMENT

(No. 50 Winder)

Two outstanding changes have been made recently in the No. 50 Roller Bail used for pineapple coning.

1. Thread Guide and Holder

An entirely new type of Thread Guide offers the advantages of being easy to thread, definitely holding the yarn in place, and being easy to replace.

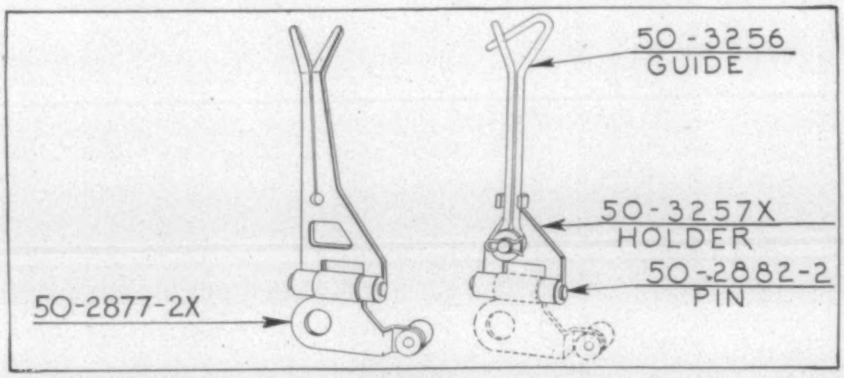


Fig. 1

This Guide (50-3256, Fig. 1) is made from music wire, chromium-plated. One leg is carried over and across the other leg to form an easy-threading retaining bail.

To accommodate this new type of Guide, the Thread Guide Holder has been redesigned. Its lower part is shaped quite like the old Thread Guide, and it is hinged in exactly the same way to the Bell Crank (50-2877-2X), but the upper part has two ears and a stud fixed in the side of the holder.

The two stems of the Thread Guide pass through the two ears, and the bottom of the Guide loops around the stud. A washer is then placed on the stud against the loop of the Guide, and both washer and Guide are locked into position by means of a small wire clip which snaps into the groove at the outer end of the stud.

Thus the Guide can be quickly and easily replaced with a pair of light pliers.

To convert from the old-style guide to the new, it is necessary to have a complete Guide Holder Assembly, consisting of Holder, Guide, Washer, Stud and Clip. New pins (50-2882-2) should be purchased at the same time, for it may be that the old pin will be damaged beyond repair when removed for releasing the old Guide. Once the change has been made, new Thread Guides can be applied with little effort.

2. Roller Bail Holder

The improved type of Roller Bail Holder (50-2922-10CAX, Fig. 2), offers convenience in lubrication.

The rear Ball Bearing is held in a fixed position, but at the outer end, the Bearing is secured by a clamp attached by a screw to the underside of the Holder. After loosening this screw, the front bearing can be drawn forward, clearing the Bail so that it can be easily lifted from the machine for lubrication.

When replacing these parts, care should be taken to see that the roll is mounted on the bearings with little or no side-play, and yet is free to rotate. If the roll binds and does not turn at its proper speed, it may shorten the traverse of the yarn, and may scuff the surface of the package.

The grooved section of the front bearing is positioned on top, making it easy to cut away any yarn or lint that may wrap around the bearing. At the inner end of the groove is a hole, serving as a vent for the lubricating element. The rear bearing has a similar hole and short groove. To lubricate, we recommend that both Roller Bearings be smeared every 2 or 3 weeks with vaseline or petrolatum.

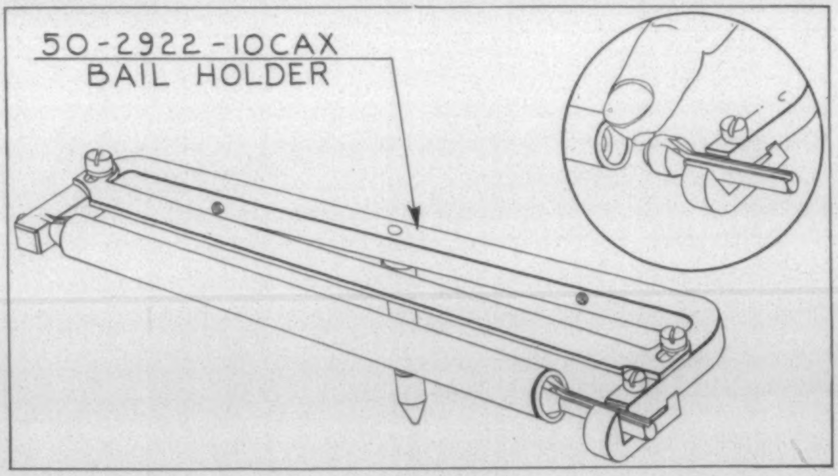


Fig. 2

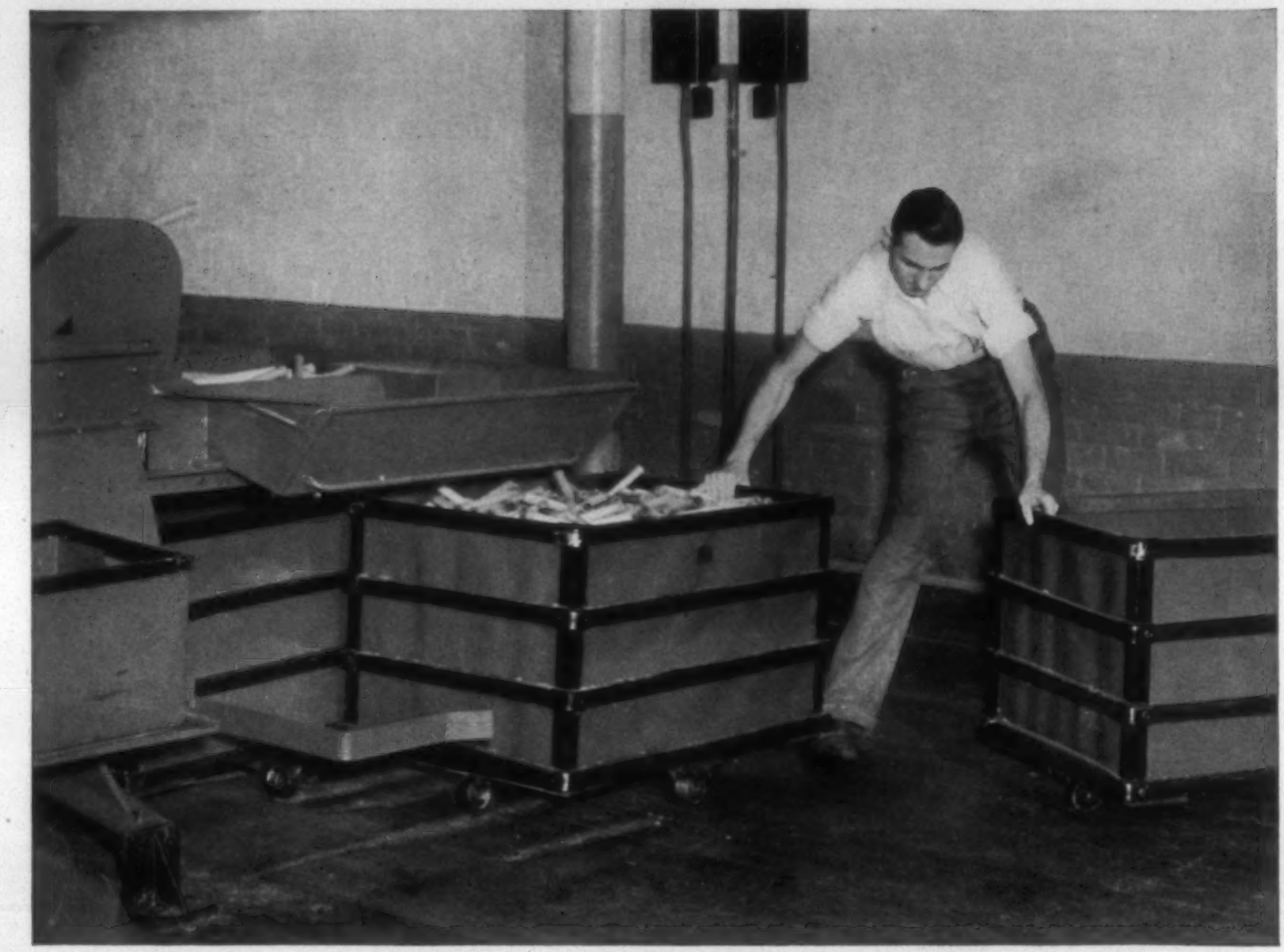
See our Catalog in TEXTILE YEARBOOK
43-GMW-39

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

*Reg. U.S. Pat. Off.



Time-Savers for Bobbin-Handling

EACH Barber-Colman Automatic Spooler has a sorting table to which empty bobbins, tailings, and strips from the pockets are delivered automatically by a conveyor. This table is large enough so that the spooler girl can easily and quickly pick out the tailings and strips. It is at convenient working height so no stooping is necessary. Having picked out all bobbins that can be re-run, she opens a flap on the front of the table and the empties slide into a large bobbin truck set under the table. When this truck is full, it can be quickly pulled out and an empty one put in its place. The truck full of empty bobbins is sent to the spinning room. These may seem like small details to be talking about, but they are typical of many features of Barber-Colman Automatic Spoolers—features which add to convenience, saving of effort, saving of time, and increased production—features which make Barber-Colman equipment valuable for producing more and better war goods, faster.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • TWISTER CREELS • MOISTURE CONTENT CONTROLS

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ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

RAYON REPORTS

Presented Monthly by American Viscose Corporation, New York, N. Y. JUNE, 1943

AMERICAN VISCOSE REDUCES RAYON STAPLE PRICES

The first major change in viscose process rayon staple prices since 1937 was made recently when the Corporation reduced the price of its rayon staple one, and in some cases, two cents a pound. The price of dull staple fiber was set at the same level as the bright.

High strength "Avisco" type staple is now offered in 1.5 denier and coarser, at the same price formerly made on the bright type of "Fibro" regular strength rayon staple.

The price of bright tow (parallel filaments of 160,000 total denier and heavier) is unchanged, but the price of the dull type has been lowered, and it is now offered at the same level as the bright.

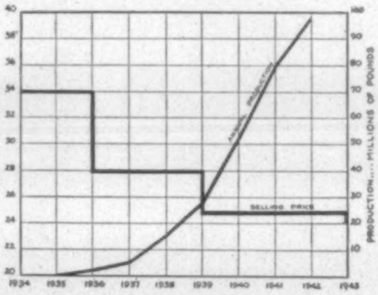


Chart showing increase in production and decrease in price of standard Fibro rayon staple since 1934.

Spun dyed rayon staple in black and gray was reduced one cent a pound.

The practical effect of the new price structure is to offer to the trade a higher-strength fiber at the former price of the standard fiber. This is another example of the way efficiencies in production and the use of new techniques have combined to produce better textile fibers at prices that have come down as quality has gone up.

TOWARDS THE FUTURE!

The expanding military uses of rayon are prophetic of post-war benefits. By improving methods of handling yarns and working to reduce weaving imperfections, weavers are developing an improved product and a greatly advanced technology of both yarn and fabric production. War needs have accelerated development in the industry, and many weaving mills are using counts never before attempted. As a result, they are finding that they have a much greater versatility in producing goods than they ever imagined.

Interchange of information among producers has eliminated many unnecessary and expensive experiments with various types of yarns and fabrics.

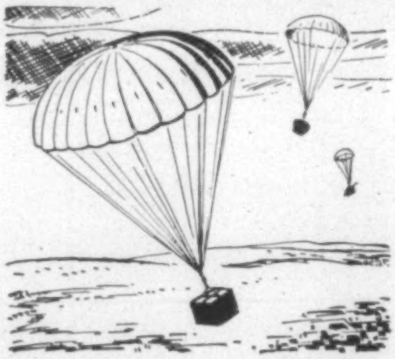
The use of rayon in industrial fabrics will be of increasing importance to industry after the war. Special types of rayon fibers used in tire yarns, cargo parachutes, and for other heavy duty uses will be freed for peacetime applications, and the consumer will benefit from many advantages.

WAR HELMET FOR WOWS

A new spun rayon and cotton scarf containing "Fibro" staple fiber has been developed as headgear for Women Ordnance Workers. The use of such scarfs has been urgently recommended by the U. S. Army Ordnance Department to eliminate the danger of women workers' hair being caught on moving parts of machinery. The new scarf has been made available to women ordnance workers throughout the country.

ELASTIC FOR WAACS

The Philadelphia Quartermaster Depot has purchased 75,000 yards of "Vinyon"* braid for use as waistbands in the winter undergarments of the Women's Army Auxiliary Corps. This braid is made of American Viscose Corporation's new type "Vinyon" yarn possessing high elasticity.



LEWISTOWN PLANT CONVERTS

A program of converting approximately one-half of the manufacturing facilities of the Lewistown, Pa., plant of American Viscose Corporation from the production of regular strength viscose rayon yarns to higher strength yarns for use in military equipment, has been partially completed and these yarns are being shipped to users. The conversion provides yarns of the type needed for fragmentation bomb parachutes, aerial delivery and cargo parachutes and aerial tow targets. The Marcus Hook plant of the Corporation is now 100% on war work.

---

*T. M. Reg. U. S. Pat. Off.

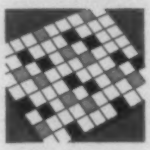
Copr. 1943—American Viscose Corp.

MAKE USE OF 4-PLY SERVICE!

1 **PRODUCT RESEARCH**
Helps you to get the right yarns.

3 **TEXTILE UNIT**
Helps solve production and finishing problems.

2 **FABRIC DEVELOPMENT**
Helps you design new fabrics.



4 **"CROWN" TESTED**
Helps provide scientific selling facts.

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Producers of CROWN* *Rayon Yarns and Staple Fibers*
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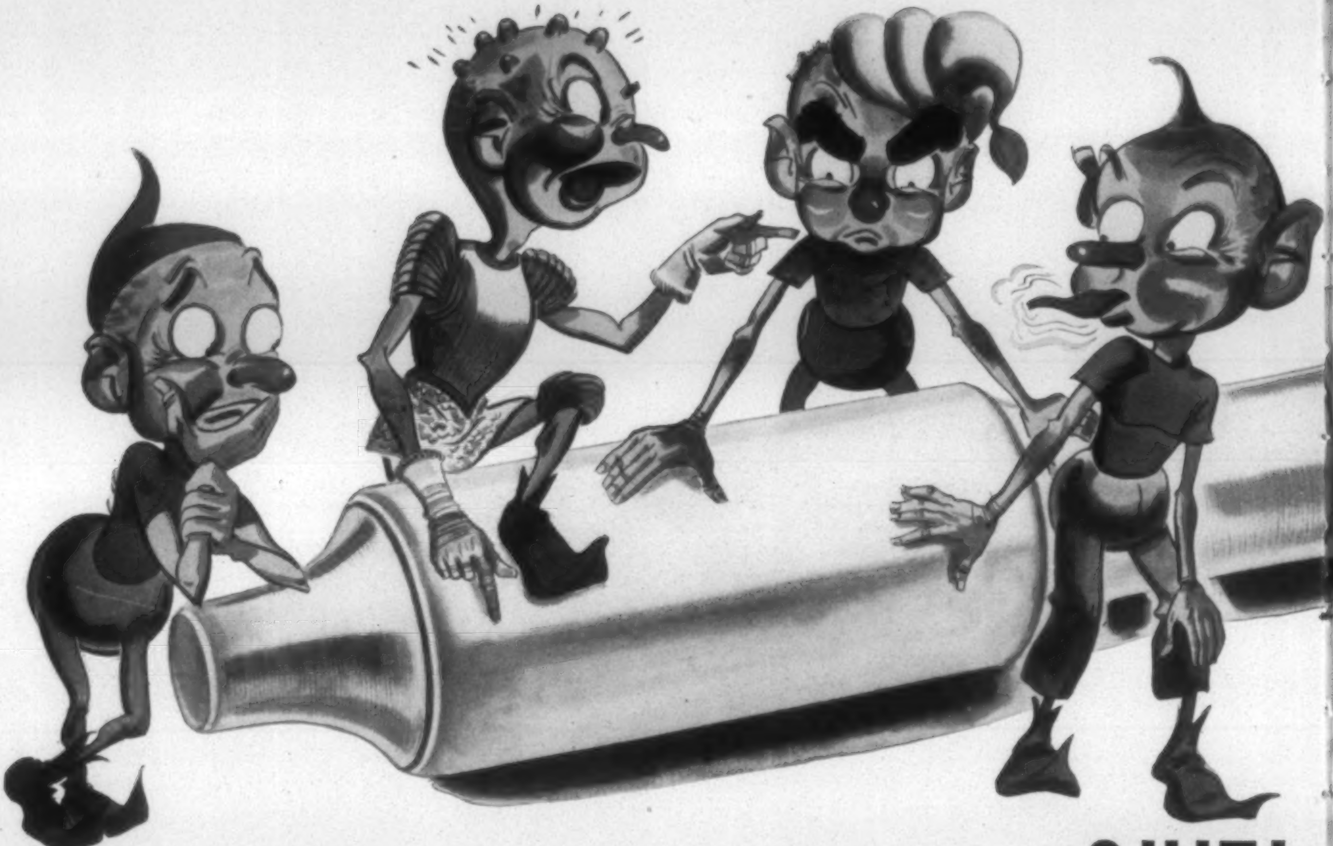


WHY THE SPINNING FRAME GREMLINS QUIT!

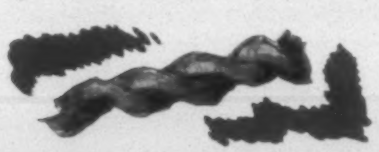
"I've been beating my brains out on those rolls and what happens?" complained Hard Ends. "That Spinna Calf acts as if nothing had happened at all. Springs right back without a *trace* of a groove."

"Hollowing-Out" was equally dejected. "I've never seen anything like it for resiliency. What's the explanation?"

"I understand," offered Eyebrows, "it's because Spinna Calf is triple-resilient."

"Triple-resilient? What does that mean?"

"It's sort of complicated," admitted Eyebrows. "But here — Spinna Calf is



made up of fibres. The fibres are twisted together into bundles. And the bundles are twisted together, every-which-way, leaving air in-between. So what you've actually got is a whole bunch of air cushions surrounded by springy fibres."

"And that's why Spinna Calf is triple-resilient?"

"Sure. When Spinna Calf is depressed, it 'gives' in three respects. The air moves out of the way. The individual fibres compress or bend. And the whole network of fibres adjusts itself, distributing the strain. Then — when the pressure is relieved, what happens? The air returns. The fibres spring back to original length. And the bundles recover their formation. No harm done — no permanent after-effects."

"And this is a special property of Spinna Calf?"

"Yes. Being calfskin, Spinna has the ability to 'give', then recover. Being Spinna, it has a stronger wearing surface on top of its cushion. And being Lawrence, it has a more positive drafting surface, 'no-static' finish, and more dependable uniformity."

A. C. LAWRENCE LEATHER CO.
RELIABLE LEATHERS
PEABODY MASS.

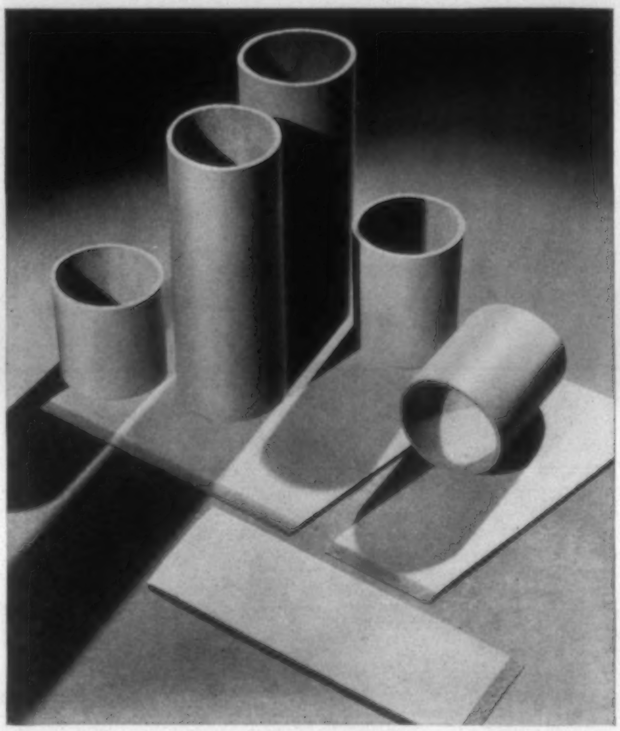
Lively **SPINNA CALF** *It's Triple Resilient*

ROLL COVERING

Spinna Calf.. AIR CUSHIONS IN A NETWORK OF TOUGH, SPRINGY FIBRES

abrasion-resistant top surface next to the yarn
interlocking fibres with air spaces in-between
cushion of flesh underneath

"If you want roll covering that is adjustable to all counts . . . can take ordinary hard ends without leaving grooves . . . and stays kind to the yarn for up to 18 months and more in front line positions . . . then Spinna Calf—the most generally used calfskin—is your best choice."



Used on more Spinning and Roving Frames than any other Brand!

Why will you find more spinning and roving frames running with Lawrence Chrome Leather aprons than with any other brand? Why do more mills specify Lawrence Chrome for apron replacements than any other brand?

- Lawrence Chrome lasts longer than any other type, reducing costs, saving replacement time.
- Lawrence Chrome holds its shape longer—no lengthwise, *no lateral* stretch to cause belling.
- Lawrence Chrome is not affected by oil—unlike oil-resistant materials which deposit oil spots on the yarn.
- Lawrence Chrome is the superior leather tannage for drafting—a natural drafting surface, smooth, but high in frictional characteristics.
- Lawrence Chrome reduces troubles due to static.

And, of course, Lawrence Chrome aprons are more convenient—can be replaced individually.

Most important of all—apron manufacturers know that Lawrence quality is more uniform. They can cut their aprons with greater assurance of giving you satisfactory performance.

Lawrence Chrome Leather is standard with Whitin Machine Works. Specify Lawrence Chrome on your next order to your apron supplier . . . you can be sure of getting the best possible drafting results.

LAWRENCE CHROME LEATHERS

1st Choice for Aprons

A. C. LAWRENCE LEATHER COMPANY
PEABODY, MASS. GREENVILLE, S. C.

ONYX

Official U. S. Navy Photograph

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The Navy Waves are contributing a full measure to the War job. Hail the Waves! From hats to hosiery there is nothing smarter nor more serviceable than their attractive uniforms — thanks to the American Textile Industry.

Onyx Research and Production are working hand in hand with textile mills and finishing plants to the end that America's war time fabrics are better in every way.

If you have a processing or finishing problem let Onyx Research help you. Your inquiries are solicited.

A few Onyx Products making war fabrics look better—wear better

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You Must Have After the War

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TEXTILE BULLETIN

Member Audit Bureau of Circulations

Vol. 64 June 15, 1943 No. 8

Flax Bagging and Twine Perfected In Georgia Project

THE impact of war demands for substitutes for textile fibers such as jute, hemp, henequin and sisal has served to divert the emphasis on the flax processing project at the State Engineering Experiment Station, Georgia School of Technology, Atlanta, from degummed and highly refined types of fiber for medium and high quality fabrics to the immediate production of low-grade fibers suitable for use in bagging, cordage and similar uses for which flax has normally been regarded as too expensive.

Laboratory and pilot plant investigations and mill tests completed in line with this altered objective have demonstrated during the last few months that flax fibers from field (or dew) retted seed flax can be successfully processed by the Tech-Flax process at a favorable price (war conditions considered) to produce:

1. 100 per cent flax yarns ranging from .6's to 1.5's cotton count which can be woven into burlap generally superior to any other substitute for jute thus far proposed;
2. 100 per cent flax twine ranging from .25's to .21's suitable as a substitute for binder twine.

Processing Is Simple

The processing of this seed flax fiber into 100 per cent flax yarn is comparatively simple, since the difficulties of spinning (the most serious problem encountered in the work of the project) are largely by-passed by wet-twisting the yarn under tension without the use of some conventional cotton mill equipment. A limited supply of field retted flax straw from the Northwest is available. Its cost is less than fiber flax straw. Plants equipped to convert a considerable part of the straw into two are already established. While the quality of the fiber obtained lacks uniformity it is of a quality sufficient to meet the requirements for the war uses listed, as well as other uses in the bagging and cordage field.

The disappearance from the markets available to the United States of jute, hemp, henequen and similar fibers presents an insistent demand for upwards of 20,000 tons of fiber backed by potential demand which may be many times as large. The more pressing textile requirements which seed flax fiber satisfy are raw sugar bagging and other types of bagging, twine, cordage and non-textile uses.

The logistic inference from the general war production situation was recognized by the project staff, the Engineering Experiment station, and the Tennessee Valley Authority as limiting whatever was done to:

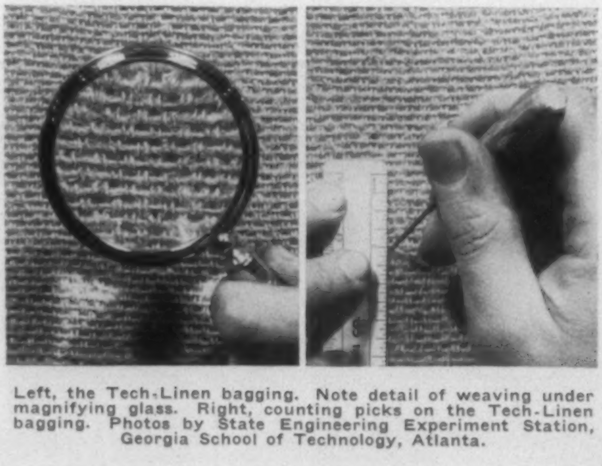
1. The use of straw already being grown;
2. Extracting the fiber with equipment already available;
3. Producing yarns and fabrics on cotton mill machinery.

Any process, however sound and otherwise desirable, which required new installations, either for extracting the fiber or for textile preparation, would obviously run head-on into WPB restrictions. The solution which has emerged during the fall months of 1942 and which is now in process of commercial application, has been developed with these conditions in mind and appears to meet them completely.

Plentiful Raw Materials

The raw materials are available in quantity. The usual plantings of seed flax in the Northwestern states average 2,900,000 acres. Normally the bulk of the straw produced is a by-product waste which the farmer burns. Hence no accurate production statistics are available. But on the basis of estimates by the Minnesota Extension Service, the total useable straw available would be about 300,000 tons. This might be expected to yield, by the somewhat crude decortication methods employed, about 75,000 tons of tow, which when refined at the cotton mill would produce about 25,000 to 33,500 tons of useable textile fiber.

Decorticating plants, apparently of sufficient capacity to



Left, the Tech-Linen bagging. Note detail of weaving under magnifying glass. Right, counting picks on the Tech-Linen bagging. Photos by State Engineering Experiment Station, Georgia School of Technology, Atlanta.

satisfy the more pressing of the needs listed are already located in the growing areas. The "two breakers" with which they are equipped will reduce the field retted straw to about one-fourth its volume. This treatment is rougher than the tech-flax system, so that the tow will yield only from two-thirds to half as much useable fiber as if it had been processed from the straw through the tank retting, decorticating and refining system developed by the Georgia State Engineering Experiment Station. In consequence a part of the fibers are damaged and the final recovery of textile fiber ranges from 30 to 45 per cent of the tow weight—from eight per cent to 11 per cent of the straw, whereas the experiment station process would produce from 13 to 17 per cent from similar seed straw. This dew retted straw does, however, represent an immediately available source from which a part of the fiber needed can be secured. The exact amount will depend on crop and weather conditions. The balance of the 25,000 to 33,500 tons of fiber potentially available in the Northwest will have to be secured from "green" of unretted straw. This requires the development of a chemical retting technique suitable for this type of straw and the equipment which is available. Work on the process is underway. Some educational work with flax growers will be necessary in order to make the potential supply actually available.

The refining and final preparation of the fiber can be done at the cotton mill by the use of cards and dusters which are standard cotton mill equipment.

The textile processing so far has only been done successfully on cotton mill equipment. While the present high level of mill production may present a problem in the locatiton of sufficient capacity, it is believed that the four or five mills required can be located. In any event the problem appears to be up to the cotton mills, since the only other solution of the bagging problem appears to be osnaburg, or similar cotton fabrics.

Flax Bagging Stronger

Bagging appears to be the most important item in this program. The wet-twisting-under-tension process appears capable of producing 100 per cent flax bagging yarns ranging from .6's to perhaps 2.5's cotton count. The estimated mill cost for the fabric necessary to make a 250-pound raw sugar bag ranges from a high of 60 cents down to a low of 42 cents depending on the delivered cost of the tow, the yield of textile fiber from the tow and the weight of fabric necessary to exceed the minimum bag standards. It appears probable that the final bag will not require more than 2.3 pounds of fiber, in which case the probable cost will range from 50 cents to 46 cents.

Giving the Tech-Linen yarn the initial twist on a slubber.

The bagging on which most of the testing was done was designed to match the specifications for a standard jute raw sugar bag. Such a bag was carefully studied as a preliminary. The fabric produced was a plain weave with 1.5's warp and .6's filling, 16x8 construction. It required 2.55 pounds of this fabric to produce a bag. The following table presents data on two tests of this fabric in comparison with the specification standard for a Puerto Rican jute raw sugar bag, and for a proposed cotton bag:

	Weight Ounces Per Sq. Yd.	Tensile Strength in Pounds	
		Warp	Filling
Tech-Flax bagging (Warp 16-17, filling 8)			
Sample one	20	132	128
Sample two	21.6	129	138
A. S. T. M. standard for Cuban jute raw sugar bag (1933)	18	125	90
Proposed cotton twill bagging	7.1	81	88
Tentative standard	7.5	80	80

It will be noted that Tech-Flax bagging exceeds the strength of both the jute standard and the osnaburg. The sample tested was slightly heavier per square yard than the jute standard and three times the osnaburg. The excess strength in the filling of the Tech-Flax bagging would easily permit reducing its weight below that of the jute, perhaps to the point where the fabric required for a bag would only weigh 2.3 pounds. The osnaburg, both the sample and the proposed standard, have a strength of about three-quarters that of the jute standard. Should field tests indicate that the Tech-Flax bagging could be reduced to a strength comparable to that of the osnaburg proposal, it would apparently cause a weight reduction sufficient to bring the estimated Tech-Flax price per bag down to a range between 38 and 32 cents.

A sample lot of the bagging covered in the test was woven sufficient to produce 300 raw sugar bags. These bags are being tested in actual service. Reports from the initial lot indicate that they will meet the hazards of shipping as well as the standard jute bag.

Steps in the Process

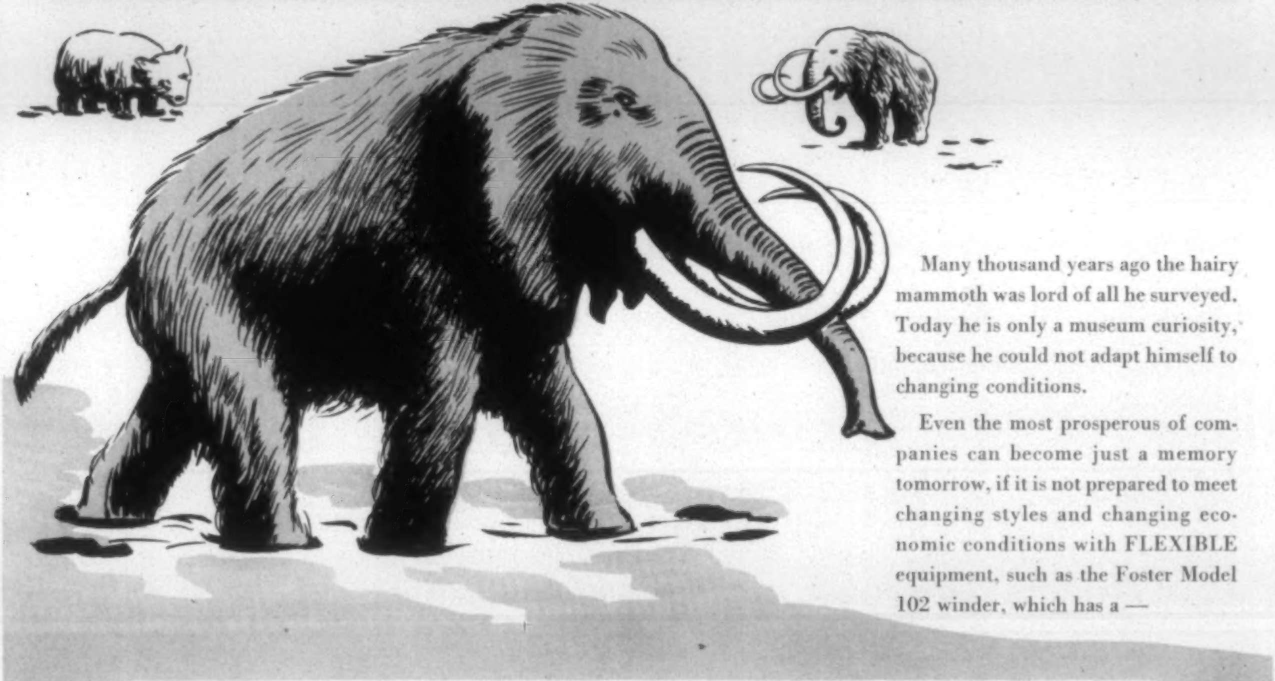
The general procedures worked out in the pilot plant at the engineering experiment station for the utilization of field-retted seed flax can be carried on by the average cotton mill. The tow, when received still contains a large proportion of shive and short fibers, so it must first be cleaned up before the yarn is made. This cleaning is accomplished with a centrifugal air duster, after which the fiber is run through a Garnett waste opener.

The sequence of operations in preparing the yarn begins with a cotton opener, a two-beater (carding) one-process picker, a card with continuous stripper, drawing frame, long-draft fly frame followed by wet twisting under tension on a cotton twister.

The weaving procedure is the same as for cotton.

The possibility of utilizing idle jute system machinery was considered. Samples of refiner fiber were submitted to a number of firms having jute spinning equipment. These firms, however, were unanimous in saying that the fiber

Profit by his Experience!



Many thousand years ago the hairy mammoth was lord of all he surveyed. Today he is only a museum curiosity, because he could not adapt himself to changing conditions.

Even the most prosperous of companies can become just a memory tomorrow, if it is not prepared to meet changing styles and changing economic conditions with FLEXIBLE equipment, such as the Foster Model 102 winder, which has a —

7-WAY FLEXIBILITY

1 It will wind any kind and any count of staple yarn from fine combed cotton or rayon for tropical fabrics to heavy wool yarns for arctic cloths.

2 It will wind a straight base cone for warping or a convex base cone for knitting with a simple adjustment.

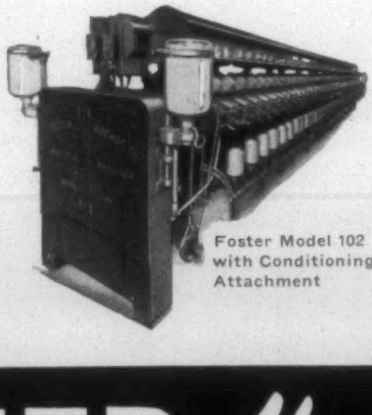
3 It will produce 9 different angles of wind from 9° to 18°. Important if you radically change your count or type of yarn.

4 It will wind package dyed yarn, even if damp. No jumping out of guides.

5 It will wind emulsion treated yarn. In fact, it is frequently equipped with an emulsion attachment.

6 Changeovers from cones to tubes, or vice versa, are comparatively inexpensive.

7 One side can wind cones and the other tubes, if desired.



Foster Model 102 with Conditioning Attachment

For today or tomorrow, Foster Model 102 Flexibility is an asset that you need. It also gives you TWICE THE PRODUCTION WITH ONE-THIRD LESS COST as compared with older Models.

These winders are available now to mills able to obtain the required preference rating.

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FOSTER *Model* 102

For Winding Cotton • Wool • Worsted • Merino • Mercerized • Spun Silk & Spun Rayon Yarns

would not work on the jute system and in recommending that some varient of the cotton system be used.

Binder Twine and Cordage

The apparent shortage of henequen fiber last fall caused a large number of inquiries regarding the possibility of using flax for binder twine and other rough or heavy cordage purposes. Utilizing the technique already described for bagging yarns a series of twisted twines was produced which ranged from .25's count to .21's count. The tensile strength for these twines averaged only slightly over half that of the henequen sample used for preliminary analysis, but was somewhat over the minimum figure of 40 pounds necessary for use on a binder. The flax twine, however, can be given a greater stiffness than other proposed substitutes, so that, if the necessary tow can be secured, 100 per cent flax binder twine appears a definite possibility.

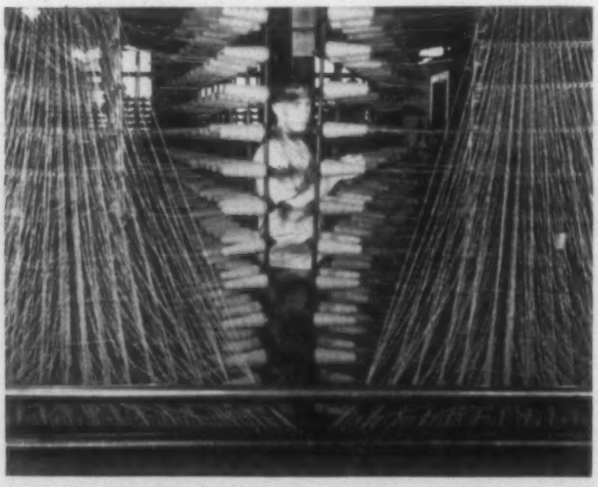
Source of Flax

The seed flax straw used by the experiment station in developing the fiber used in this bagging is a by-product of the seed flax industry in Minnesota, the Dakotas, Wisconsin and other states in the central Northwest. The seed flax is grown as a source of linseed oil. The primary market for which the straw is decorticated is that of cigarette paper manufacture. Some of the tow is also used in the upholstery industry.

The crop is harvested with combines which mow the straw, cut off the seed heads and leave the straw in the field where it dew rets. The dew-retted straw is purchased by the decorticator on the basis of inspection in the field, thereby eliminating straw which is of inferior quality for any reasons such as a poor stand and consequent large stems, or over-retting.

The agricultural work for the project, being carried on by the (Georgia) College of Agriculture, indicates definitely that flax might profitably be grown in south Georgia as a winter crop. Here, again, the data appears to show that seed type flax is more desirable than the fiber varieties because of the higher seed yield and lower harvesting costs.

This required fields level enough to permit the use of a combine, or at least a mowing machine. As a broad generality flax can be grown where either oats or wheat can be grown and the planting, growing and harvest times would be about the same.



Winding the Tech-Linen yarn onto a warp beam.

In the Southeast four types of area have been found more or less suitable for flax culture:

1. As a spring crop in the lower flat valleys of eastern Tennessee,
2. As a summer crop in the mountain valleys of western North Carolina, eastern Tennessee and north Georgia,
3. As a spring crop in middle Georgia, western South Carolina and eastern Alabama, north of the fall line, and,
4. As a fall or winter crop along the secondary coastal plain in south Georgia, north Florida, south Alabama and in South Carolina.

It does not appear practical, however, to press immediately for commercial growing in the South. This would necessitate the establishment of retting and decorticating plants requiring critical materials which would probably be unobtainable.

Such a development, however, is being given definite post-war consideration. It offers the economic advantages of a better quality of seed straw, a higher yield of textile fiber and avoids the high transportation costs inherent in using tow from the Northwest. At the same time there would be no destructive competition with the Northwestern flax grower since the seed production there is only about half the United States' consumption. The possibility, even appears that as a peace-time flax industry grew it would be able to absorb a considerable part of the straw grown in the Northwest.

Apparently the climatic factors are more favorable in the secondary coastal plain, although this is not yet a final conclusion. The present indications, however, are that seed flax varieties with suitable straw characteristics can be developed which can be grown generally in all of the areas listed.

The Long Term Program

The broad program of flax research which has been going on at the experiment station since 1937 and which was interrupted by this emergency demand for bagging and similar products has equally important results which may be expected to be post-war factors in the medium priced textile field.

The original objective was to develop methods of mechanical decorticating and chemical degumming which would produce a stapled fiber which could be spun on cotton mill machinery.

The results so far attained seem to justify this original objective although the present state of the processes developed indicate the necessity for some modification. It has been found that a partial retting is desirable as a part of the decortication process and some modification of the drawing process in spinning seems essential due to characteristics of the flax fiber.

The cotton-textile industry will emerge from World War II with a greatly increased capacity for production, resulting in the main from a higher efficiency of operation attained under the pressure of war production. Its character will have been somewhat altered under the process. More nearly will the phrase "textile industry" apply since more and more cotton mills are spinning and weaving fabrics from a variety of fibers. Wool, rayon and flax are all "cotton mill" materials since the cotton system appears to be more versa-

(*Continued on Page 60*)

S is for SCARCITY...

and for SERVICE, TOO!

Service is a word to which Cyanamid has always been partial. For it forms the foundation upon which the Company has built its customer relations.

The chemical needs of wartime industry now have first call on much of Cyanamid production. No one, we feel sure, would want this to be otherwise. But among the critical high priority materials are many upon which manufacturers of civilian goods have depended in the past.

This situation Cyanamid regards as a double responsibility. As a result, while the Company's rapidly expanding capacities constantly increase chemical production for war use... Cyanamid has applied important research and product development activities to help meet imperative customer problems brought about by the emergency.

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Hand Tools for the Weave Room

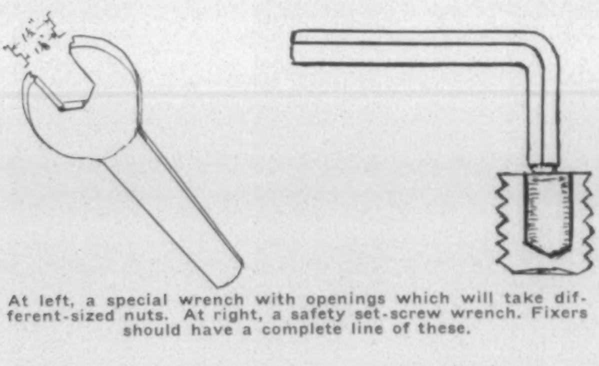
By H. E. Wenrich

Today, with more and more young men, as well as women, undertaking the study of loomfixing with the expectation of making it their life vocation, the need for instructive help in the selection of proper tools in which to carry on the job is apparent. The following article describes most of the needed tools to carry on successfully.

WHENEVER you work around machinery, you must have tools to keep that machinery in good mechanical condition. This is true in all branches of manufacturing, and especially so in the textile industry. The more complicated and delicate the mechanism is, the larger the variety of tools that will be needed to keep various motions in working order. However, just collecting a mass of tools will not necessarily make any mechanic an expert; just as often a collection of many tools may be but a bunch of worthless scrap.

Importance of the Loom

Let us investigate one definite line of work as an illustration. Suppose we select the weaving industry with its vast amount of busy machinery transforming milk into men's neckties, coal into parachute cloth stronger than age-old silk, oily and smelly sheep wool into warm blankets or well-styled business suits, spruce and hemlock pulp into exquisite evening gowns, pods of bursting cotton into duck sheltering a mighty army. Let us now select the most important machine within this meshing of cogs and gears and shafts and frames and spindles and yarns and fabrics. The machine that produces, the machine that must be kept running, the machine that requires tools to adjust numerous breakdowns . . . . . that machine is the loom. For it is the loom that earns the vital income to pay management, the weaver, the doffer, the warper and everyone else connected within the industry from the cotton grower and the lumberman on up through the loomfixer to the merchant. And it is one man's job to keep this mighty important machine in operation, producing quality as well as maximum production—for when a loom breaks down, income shuts off—and that is one reason why a fixer's job is essential, so much so that he should realize that within his mind and within his hands rests the efficiency of every machine under his care.



At left, a special wrench with openings which will take different-sized nuts. At right, a safety set-screw wrench. Fixers should have a complete line of these.

Every fixer should choose well when buying tools. There is much evidence that many fixers fail to see the need for good tools. In fact, many older fixers could go through their tool box and pick out many tools that are practically useless in making a fast and adequate repair. Any tool unfitted for the job is not only a time waster but will ruin machinery parts and often cause serious injury to the user. It is important that at the right time the right tool should be used.

Fixer-learners usually take on a few looms under their care and increase the loomage until eventually they have gained sufficient knowledge to handle a full section. During this time of probation they should at least have a fair share of the tools they will need when capable of handling a section. The writer recalls that during his apprenticeship the regular section fixer remarked, "All you need to start with is an adjustable wrench, a screwdriver and a pair of pliers." Unfortunately such few tools would place the fixer-learner in a tight spot, as many other tools are a required must, even though he may have but one loom under his care.

Open-End Wrenches

Open-end wrenches carry the heaviest burden of loom-repair requirements. Usually fixers will find that if they select the best grade wrenches in sets of five or six with openings needed for the type of loom under their care, the adjustments of breakdowns will come easier. As a rule, modern thin wrenches of rustless steel should be selected. Don't haggle over a dollar or two when it comes to buying tools—and when making a replacement, don't make a fill-in with a cheap wrench that will soon break or spread at the opening under a little pressure.

As so many types of looms are in operation, it is useless to go into detail covering wrench sizes and specialties. Different model looms often require unindentical openings in wrenches and other needed tools. But as an example let us take one of the new high-speed rayon looms and pick out the necessary tools to keep it in operation.

On the head motion of this new loom—as well as on many of the earlier looms—several nuts requiring settings are the dobby-knife connector-bolt nuts, taking a ⅞-inch opening, while the dobby rocker takes a one-inch open-end wrench for the adjusting nut. So these two openings can be combined into the one tool to save space in the tool box and to facilitate adjustments when being made. But here another factor enters the picture. In some repairs two openings of the same size may be required to be used at the

a girl's got to have pants!

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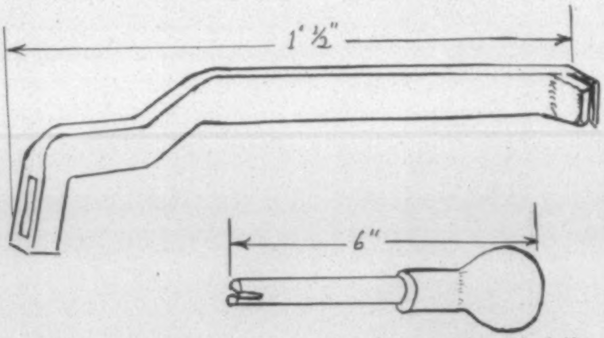
Two Wrenches in One

Occasionally, certain needs arise when a specially constructed tool will serve better than a purchased tool. Such a wrench is shown in the accompanying illustration. This particular tool alleviated the need for two separate wrenches. As a fixer will occasionally have mixed looms in his section, he may benefit from this experience—one fixer had mixed looms and several similar adjustments required different size wrench openings with the result that the above tool was fashioned. One type of loom required a 1⅜-inch opening for the pick-wheel hexagon nut, while a different loom model required a wrench opening of 1½-inch size for the nut. The carry-all knit would have required two wrenches, whereas this ingenious wrench proved to be an ideal addition to the tool kit.

A similarly fashioned wrench can also be made for other purposes. In this same section previously mentioned, two different sized nuts were found on the friction adjusting fork. One size took a 1⅛-inch opening, the second a 1⅜-inch opening. For use with both wrenches, added leverage to loosen stubborn nuts was made possible by fashioning a short length of steel pipe approximately eight inches long. The end of the pipe was heated and flattened out to fit the wrench handles.

Should fixers desire a two-opening size in one wrench end, and a two-opening size in the opposite end, purchasing a wrench with openings of the largest sizes will be feasible. Any machine shop is capable of cutting openings to the desired size. However, it is possible to procure such tools on order from regular tool makers, who will finish such a tool far more perfectly than inexperienced hands.

Set-Screw Wrenches



At top is shown a jack back combination wrench, and at the bottom a peg wrench, the use of which is required on dobby-head looms.

Set-screw wrenches are especially made for small-sized set-screws and bolts that require heavy duty work in miniature form. The use of thin wrenches for this purpose should be avoided, as the pressure needed for small set-screws and out-of-the-way bolts requires the right wrench for the job. Trying to adjust center filling motion parts and damaged parts as well as hand injuries. Select at least four of the small sizes up to one-half-inch in the set-screw beneath the cloth between the lay and the breast beam with large wrenches or small thin wrenches will result in broken wrenches, allowing eight different. And an important suggestion—when a wrench breaks, throw it on the scrap pile and fill in the set with an exact duplicate.

Several off-set box wrenches will come in handy if there is a need for a certain difficult adjustment instead of trying to make a tool collection. Such wrenches come in handy when reaching under the cloth to loosen or fasten adjustments connected with the protector rod and other close arrangements between the lay and breast beam. Other needs for such wrenches are found in several positions around the loom such as knock-off plates, etc., beneath the breast beam and loom harness. Do not use box wrenches where flat, open-end wrenches can be used freely.

On many of the old silk-type Stafford looms, as well as on C. & K. and Draper looms of certain models, a long handle socket wrench to reach the nuts on the lay-sword rocket foot will come in handy. Occasionally, if these bolts work loose, allowing the lay-sword to rise, various motions become unbalanced and require adjusting to previous settings. As open-end wrenches fail to give sufficient leverage for an extra tightening of the bolts, the use of a long handle socket wrench is advisable so plenty of strength can be used. Such a wrench, 15 inches in length, can be secured. An added advantage is the additional service possible with the use of extra sockets to fit other out-of-the-way positions.

Many fixers go in for odd-shaped open-end wrenches and a full kit of socket and off-set wrenches. This practice is not advisable, as money placed in useless tools can be invested in necessary ones that are always required by every fixer.

Required Wrenches

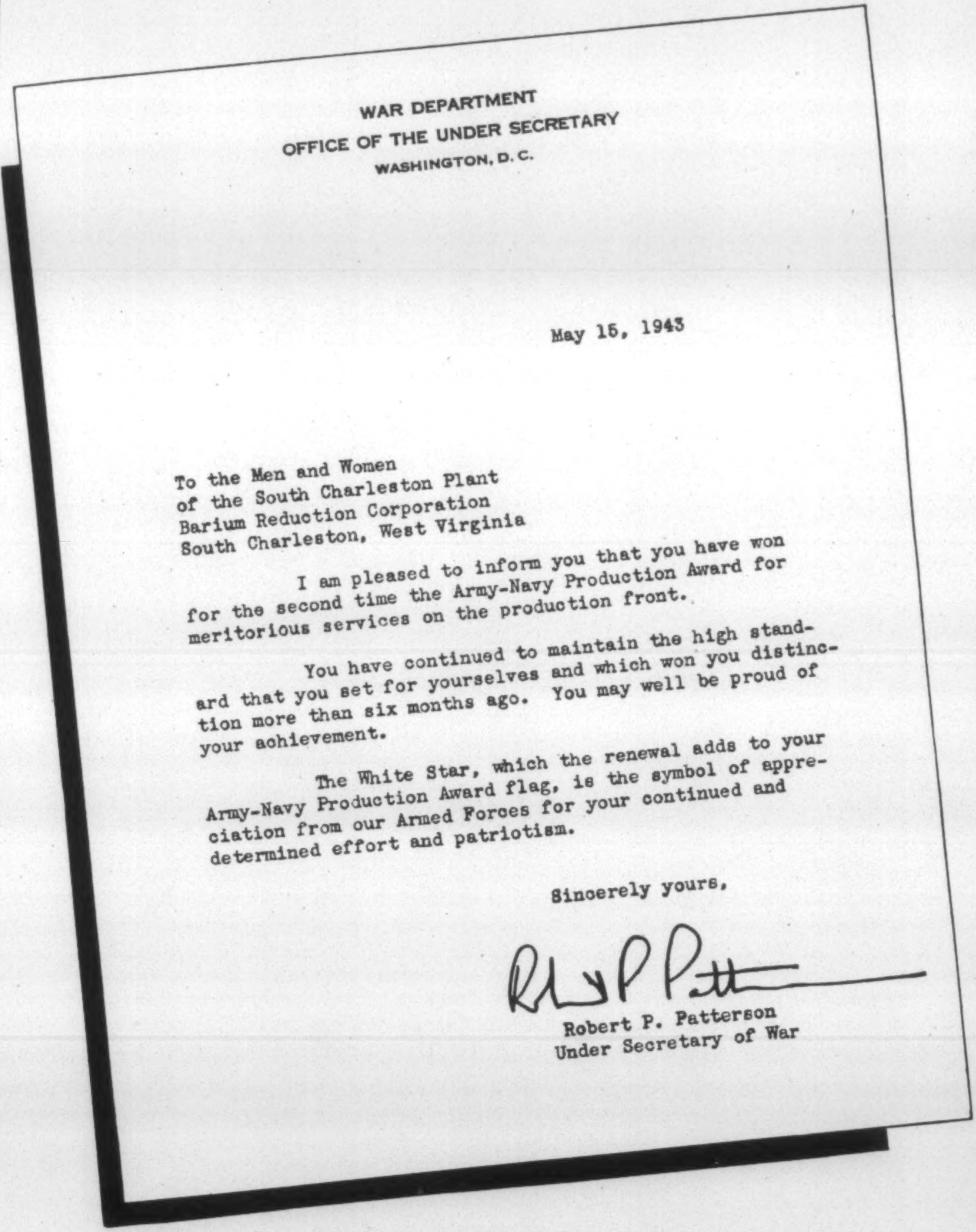
Some of these required wrenches are: a suitable size Stillson, monkey wrench, and at least two open-end adjustable wrenches. The Stillson comes in handy for turning rocker shafts that have become worn and if it is desired to turn the shaft a one-fourth turn, creating a new surface in the worn part of the bearing. Likewise, when the jack-rest bar in the dobby head has become badly worn, it can be turned to present a smooth surface to the jacks. Other needs for Stillsons turn up from time to time. If the looms are heavy frame construction, two Stillsons could be handy for selection—one being an eight-inch and the second a 14-inch. Otherwise, a 10-inch or a 12-inch size is suitable for the average loom in widths from 40-inch to 56-inch reed space. For most loom fixing, it is unwise to purchase a Stillson under the eight-inch length.

Monkey Wrenches

Monkey wrenches should be found in every fixer's tool kit, as from time to time forceful pressure must be applied to certain nuts "frozen" fast or damaged, thus necessitating more than the ordinary open-end wrench. A 14-inch monkey wrench should be first choice, as it can be used for leverage in bending protector-rod daggers. A second choice should be made of a six-inch or eight-inch size for smaller nuts and reaching into limited spaces restricting the use of a larger wrench.

Among the adjustables, open-end adjusting wrenches are the handiest in loom maintenance, fitting practically all bolt adjustments on the warp beams, brackets, let-offs, and on

(*Continued on Page 56*)



WAR DEPARTMENT
OFFICE OF THE UNDER SECRETARY
WASHINGTON, D. C.

May 15, 1943

To the Men and Women
of the South Charleston Plant
Barium Reduction Corporation
South Charleston, West Virginia

I am pleased to inform you that you have won for the second time the Army-Navy Production Award for meritorious services on the production front.

You have continued to maintain the high standard that you set for yourselves and which won you distinction more than six months ago. You may well be proud of your achievement.

The White Star, which the renewal adds to your Army-Navy Production Award flag, is the symbol of appreciation from our Armed Forces for your continued and determined effort and patriotism.

Sincerely yours,

Robt P Patterson

Robert P. Patterson
Under Secretary of War

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IN TEN MORE MINUTES they'll be in action—American fighters risking life and limb to conquer one more bridgehead on the road to freedom.

And in ten more minutes—what will *you* be doing to help win this war?

Because it's up to you as much as it's up to them. Unless you—and all the rest of us at home—are devoting every spare minute of our time to fighting this war as civilians, *their* chances of victory are slim.

Next time you read of an American raid on enemy positions—with its tragic footnote of lost planes and ships and men—ask yourself:

"What *more* can I do today for freedom? What *more* can I do tomorrow that will save the lives of men like this and help them win the war?"

* * *

To help you find *your* place in America's War for Freedom, the Government has organized the Citizens Service Corps as part of local Defense Councils. Probably there is one of these Corps operating now in your community. Give it your full co-operation. If none exists, help organize one.

Write to this magazine for a free booklet, "You and the War," telling you what to do and how to do it. This is *your* war. Help win it. Choose what you will do now!

EVERY CIVILIAN A FIGHTER

Contributed by the Magazine Publishers of America

Safety Through Employee Morale

By JOHN M. CAUGHMAN

General Superintendent, Spartan Mills, Spartanburg, S. C.

TODAY we hear of morale of our fighting forces, the morale of the home front, and the morale of the workers of our industrial plants. Now we discuss safety through employee morale.

What is morale? The meaning of the word is defined "as a condition as affected by, or dependent upon such mental factors as zeal, spirit, hope or confidence." In other words it is a mental state.

I say that the morale of a worker is the understanding of a worker. Or put it this way; the morale of a group of workers is good or high if the group of workers understand what is wanted and are making an effort to accomplish the desired ends. Therefore—to bring about safety through employee morale is simply to have the workers safety minded. They must be sold on safety; what safety means to him as an individual and what it means to his fellow workers. He must be kept safety minded as an individual, he must appreciate safe practices, and their effect upon the group with whom he works. In order to illustrate what I mean by the statement that he must appreciate safe practices and their effect upon the group with whom he works, I want to tell you of a case in our plant.

Some time back we decided to discontinue the practice of scrubbing the floors so we gave the floors a special oil treatment. This special oil treatment worked fine except when a person spit on the floor, and before we fixed up smoking rooms many of our employees used either chewing tobacco or snuff. So in order to discourage the use of tobacco and knowing we could not enforce a no chewing rule, we removed the cuspidors.

Shortly after we started the practice of our shift foremen talking with our new employees at the end of the first two weeks. These talks are informal and designed for the purpose of assisting a new employee to become adjusted to the department and organization. We endeavor to find out their problems, gather any suggestion and also a follow up on our safe practice instructions. These talks are written down and here is the story.

"I talked with Susan Brown (this is the shift foreman writing and Susan Brown is a spinner) and she says she likes her work. I asked her how she liked the way our work run and if it run any better than the job she left. She said it did. Said the work was esaier and everybody treated her fine.

"I asked her if there was anything that troubled or bothered her. She said one thing. I ask what? She said, 'Well, you know I dip snuff and I can't find a place to spit.' "

Top Management

Safety morale must begin with top management. Each and every one must be sold on the value of the safety program before he can be expected to sell it to the workers. The attitude of management towards safety is after all the basic factor of accident prevention. Therefore, it follows that the attitude of management is the influencing factor in getting or losing employee morale. The worker cannot be expected to follow safe practices if the employer is not doing all within his power to make the physical conditions safe, and also if he is not showing and maintaining a sincere interest in the plant's safety program. The success or failure of the safety program, the attitude and practices of foremen and other supervisory officials, the functioning of safety committees, and the response of the workers will invariably depend upon the point of view and conduct of the top officials and those who directly control the formation and application of the company policies.

In our plant when an outstanding record is made by a department, that particular department is stopped off for, say, ten minutes, and the president of the company or some delegated person will offer personal congratulations to those employees of that department. In the case of an outstanding record made by the plant, each employee is reached by letter of congratulation from the top management.

In building morale, as in the maintenance of production,

(*Continued on Page 44*)

THE HUMAN FACTOR

The following article, "Human Relationships and Safety," appeared in *Trained Men* and was written by Edward C. Horner of Oxford (N. C.) Cotton Mills.

Human relationship is a long subject. In relation to safety, it is the human element and not the machine that is the big factor.

We are all familiar with the underpasses and overpasses which eliminate dangerous crossing hazards and crowded highways. We can and do erect safety guards around moving parts and dangerous machinery, thereby eliminating hazards of operation. We can do these mechanical things, but when we come to the human element, we are confronted with an entirely different problem. *It is impossible to construct a safety device around each individual, thus exempting him from the hazards of industry.* We have but one course to follow, that is to deal with the human relationship to safety and to accident hazards.

These hazards lurk around you and me in the plant and not to any great extent around the higher-ups in the executive management of the mill. For this reason, responsibility for safety rests very largely upon

(*Continued on Page 41*)

PRACTICAL TEXTILE DESIGNING

PART TWELVE

By THOMAS NELSON
Dean of the Textile School, North Carolina State College, Raleigh

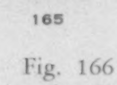
The designing of corkscrew twills and pointed twills is explained in this installment of Dean Nelson's series. In the next issue he will take up color effects.

CORKSCREW twills are used in the manufacture of worsted goods and for stripes and solid cotton fabrics. Ordinary twill weaves are used, and by rearranging the thread or combining two twills together in a certain order, the corkscrew twills are produced. The object in view is to produce what might be called a double twill, with one side the reverse of the other. This is obtained by rearranging the threads of the twill, or combining the threads of two twills in such a way that where one thread is raised the other will be depressed. By this means two color effects can readily be obtained. A higher texture, namely, a larger number of threads will be required than with an ordinary twill because only one-half the threads are on the face and the other half on the back.

Construction of Designs

In constructing these designs by rearranging small twill weaves, the twills used are generally uneven sided twills with only a float of one point in warp in excess of filling, thus, $\frac{3}{2}$, $\frac{4}{3}$, $\frac{5}{4}$.

In laying out the design, first insert the weave to be used on alternate lines on the design paper. With the same weave fill in the alternate empty lines, arranging the threads so that the second thread will be raised when the first thread is depressed, and continuing each thread in rotation until all are inserted. In all cases two repeats of the foundation weave are required for one complete repeat of the design. The smallest twill that can be used for these weaves is the $\frac{3}{2}$ twill illustrated at Fig. 165.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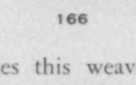
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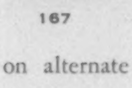
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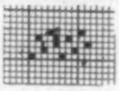
Fig. 166 illustrates this weave arranged on alternate threads. Fig. 167 is the complete design.

It will be noticed that the second thread in the complete design is the same as the fourth thread in the foundation weave, the fourth thread in complete design the same as the fifth thread in foundation weave. Continuing this analysis, it will be seen that the threads are drawn through the harness shafts in the following order: 1, 4, 2, 5, 3, 1, 4, 2, 5, 3, as is illustrated at Fig. 168.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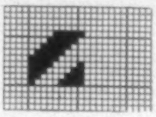
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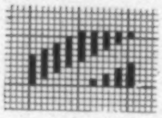
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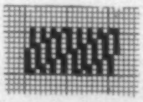
Fig. 169 illustrates the $\frac{5}{4}$ twill weave.

Fig. 170 illustrates the weave on alternate threads.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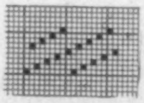
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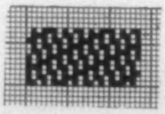
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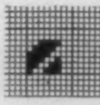
Fig. 171 is the complete design and Fig. 172 the drawing-in draft.

Fabrics made from this and other large twills are often bound in the middle of the float at the back so as to make the fabric firm, otherwise there is a tendency to produce a loose, spongy fabric.

Fig. 173 illustrates the method of obtaining this result by using the $\frac{6\ \ 1}{2\ \ 2}$ twill weave.

The chain plan will be the foundation weave. In practical work, whenever possible, a straight draft is preferable and the pattern is made by the pattern chain.

When constructing corkscrew twills by a combination of two different twills, practically the same principle is followed. One twill is inserted in alternate lines on design paper. The second twill is then filled in on the empty lines.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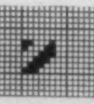
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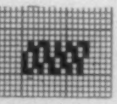
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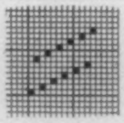
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Figs. 174 and 175 illustrate the two weaves to be used.

Fig. 176 is the complete design and Fig. 177 the drawing-in draft.

Pointed Twills

Pointed twills are constructed from any ordinary twill by the use of the point drawing-in draft. To construct these

WHAT DO YOU EXPECT OF A WARP SIZE?

✓ 3. High breaking strength . . .

The higher the warp breaking strength, the fewer loom stops, therefore the greater the efficiency of your weave room.

Sizing of warps is done for the many reasons listed at the left, and of these none is more important than *strength,* which the coating of size compound lends to the warps.

Because their strength is increased greatly, the warps stand tension and abrasion in the loom without breaking and interrupting production. And production, at reasonable cost, is what you're seeking.

Ask the Houghton Man for the full story of both HOUGHTO-SIZE and Check-up Test Service that is given freely on warp sizing, or write

E. F. Houghton & Co.

303 W. Lehigh Ave., Philadelphia, Pa.
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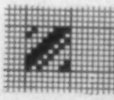
HOUGHTO-SIZE

weaves one repeat of the weave is made and then reversed in the opposite direction. In making the reversal, the first and last threads are used only once in each pattern and these are the "point" or center threads. These twills weaves are used extensively in fancy cotton goods, both for body of fabric and for stripes.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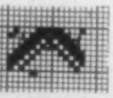
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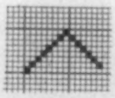
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Fig. 178 illustrates the $\frac{3\quad 1}{3\quad 1}$ twill weave.

Fig. 179 illustrates the pointed twill constructed from this weave using the drawing-in draft shown at Fig. 180.

This illustration clearly explains the method by which pointed twills are made.

Fabrics Made From These Weaves

Pointed twill weaves are used in an almost endless variety of fabrics—single fabrics, extra warp figures as used in dress goods and draperies, shirtings, and other fancy fabrics. Fig. 181 illustrates a cotton fabric used for a lightweight coating. The design and drawing-in draft is given at Fig. 182, and is developed from the $\frac{3\quad 3\quad 1\quad 1}{1\quad 1\quad 3\quad 3}$ twill.

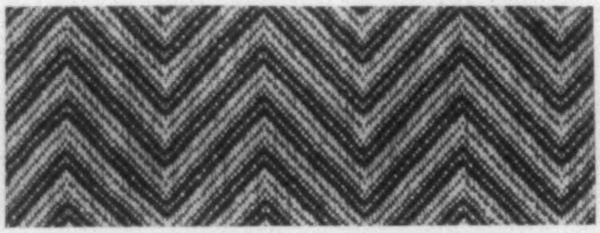
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Fig. 183 illustrates a shirtwaist fabric using a green warp and rayon filling. The design and drawing-in draft for the fabric is shown at Fig. 184.

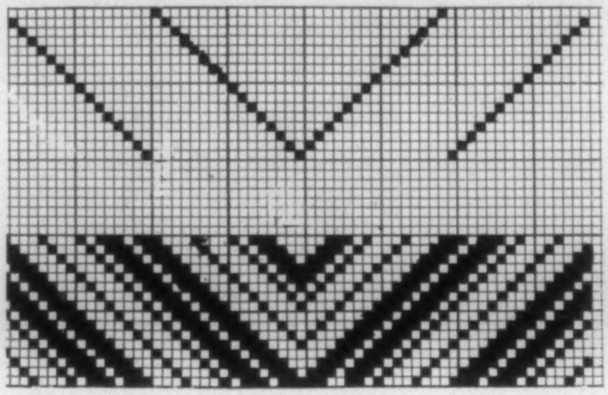
Wave Designs

Another style of pointed twill is made by varying the number of threads in each point. The method of constructing these designs is to mark out the twill pattern for a number of threads in one direction and then reverse, then carry forward again and then reverse, and so on; each reversal occupying a different number of threads. These patterns are often called wave designs because of the wave lines that are formed across the cloth.

Fig. 185 illustrates a wave twill design constructed from the $\frac{4\quad 1}{3\quad 2}$ twill, with drawing-in draft under design.

These wave designs are also made lengthwise of the fab-

(*Continued on Page 50*)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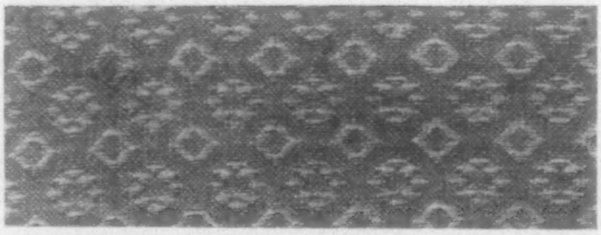
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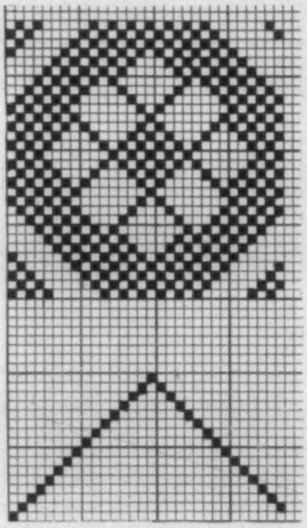
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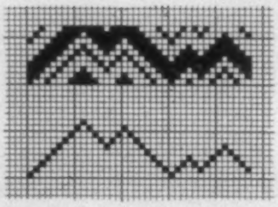
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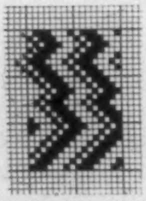
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187

Right Dress!

AND FAST COLORS FOR WORK WEAR

WOMEN do not stop being women when they become war workers. They are still style conscious. They still want to appear at their best.

But they know that work in war plants imposes new demands on clothing. It is subject to grime, grease, perspiration and frequent launderings.

This calls for fast dyes—the fastest available. For colors must not fade noticeably during the long, hard life of the garment. Vat dyes, which can be used on cotton, rayon or linen, should be your first choice when Uncle Sam can spare them.

America's women war workers will expect fast color in tomorrow's clothing.

Build good color value into fabrics for work clothing. Use the fastest dyestuffs available. It helps conserve America's supply of suitable fabrics. And it helps you build your reputation for the increased post-war market. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Dyestuffs Division, Wilmington, Delaware.

DU PONT DYESTUFFS
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DYESTUFFS

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Dyeing Spun Rayon and Aralac Piece Goods

By ALLISON FITZGERALD

Part Five

When early war needs necessitated the use of a large amount of wool in military fabrics, a demand arose for aralac. Although the wool situation is now much better, aralac is expected to remain popular. The author discusses the processing of this fabric in his fifth article of a series on wartime dyeing.

WARTIME restrictions on the use of wool proved a real boon for the use of aralac (a casein fiber) to replace wool in various popular construction dress fabrics such as cotton-wool and spun rayon (viscose) and wool. Aralac is a casein synthetic fiber, and is the closest of all synthetic fibers to wool, both in preparation, dyeing and finishing properties and characteristics.

It possesses many unusual properties. It is a casein fiber and possesses a pH of five to six, which makes it on the acid side and this causes rapid dyeing of the aralac the first 20 minutes in the dyebath. It can be dyed with direct, milling neutral and acid dyeing wool, and acetate dyestuff. Milling acid and neutral dyestuff show about the same degree of light fastness on aralac as on wool. On wash fastness, milling acid and neutral dyeing acid colors show poorer fastness on aralac than on wool. Not all chrome colors dye aralac as they do wool but by careful selection a good range of shades can be dyed using chrome colors by either top or meta chrome method.

FURTHER CHANGES IN DYESTUFFS

Further conversion of equipment to meet new military requirements of the Quartermaster Corps and Chemical Warfare Service is being planned by the dyestuff industry, it was revealed recently at a meeting of the members of the Dyestuff Manufacturers Industry Advisory Committee of the War Production Board with Government officials.

The recent adoption of dark olive drab for Army uniforms and the Navy's new battleship gray present production problems to the industry necessitating this proposed stepping up of the conversion program, it was stated. The plan, which is a voluntary one, is already in process in part of the industry.

Order M-103 as recently amended (Dyestuffs and Organic Pigments) was reviewed by the committee, which agreed that the order as it now stands is practicable.

It was also recommended that dye and pigment colors exempt from Order M-103 be listed for clarification and that the word "retailer" as now used in the order be more clearly interpreted.

Dr. Arnold L. Lippert chief of the dyestuffs section, Textile, Clothing and Leather Division of WPB, presided.

Alkalies and Soaps

It is very sensitive to alkalies and soaps, so special care must be observed to use small amounts of these agents for the pre-scouring operations and then to remove all traces of them before goods are bleached or dyed prior to finishing. As aralac is usually received by most finishing plants with a pH of five to six, it has been found most beneficial before starting the dyeing process to neutralize this acid condition of aralac by giving the greige goods a 20-minute scour at 100-120° F. with 0.5 to 1.0 per cent sodium bicarbonate or 0.5 to 1.0 per cent borax. Drop bath and rinse, ready for drying prior to padding or entering wet in the dye beck ready for reel dyeing.

Aralac may be cross-dyed like acetate and viscose rayon, or wool and viscose rayon through the use of similar resistant agents as used for wool, selecting fast-to-light and washing direct colors that are supposed to resist wool at 140-150° F. dyeing temperature, such as Katonal W (General Dyestuff Corp.), and Mordont (Calco Chemical Works).

These agents added to the direct dye baths at 150-160° F. keep the direct color from staining the aralac, thus permitting it to be cross-dyed with acid or acetate colors as preferred by dyer.

Spun rayon and aralac blend fabrics are prepared in numerous constructions. One of the most popular constructions ranges around 20 per cent aralac and 80 per cent spun rayon, these blends being in both the filling and warp yarn.

Processing Methods

The following suggested plant processing methods are based on fast-to-light direct colors that have aralac white at the lower temperatures.

Formula Number One: Padding of greige goods using selected direct colors. A 100-gallon color mix is as follows:

1 lb. 4 oz. Chlorantine Fast NN
2 lb. ——Amanil Fast Red 8BL
2 lb. 3 oz. Amanil Fast Blue 4GL
2 lb. ——Penetrant
20 lb. ——Salt

Prepare colors and strain into tank, raise to 160-170° F. Pad at 160° F. Check color pad box as to temperature (very important for uniformly padded goods).

After goods have been padded, load on a dyebeck that

(*Continued on Page 46*)

Would you turn your back on a wounded Soldier ?

You think you wouldn't...you don't mean to...

But unless you are giving every precious minute of your time...every ounce of strength that you can spare... towards helping win this war as a civilian, you are letting down those soldiers who are sacrificing lives to win it for you.

What you are asked to give up isn't much compared with what they're giving up. The extra work you undertake is small compared with the gigantic effort they are making. But to a wounded soldier, what you do can mean the difference between life and death.

You make the choice.

Look Around You! *Pick your war activity—and get into it! In your local Citizens Service Corps or Defense Council there is something for every man, woman and child to do. If no such groups exist in your community, help to organize them. Write to this magazine for free booklet, "You and the War," telling what you can do to help defeat the Axis. Find your job—and give it all you've got!*

Contributed by the Magazine Publishers of America

EVERY CIVILIAN A FIGHTER

WHY THINGS FAIL

By R. B. HELLER
Akron Belting Co.

THERE is a condition which confronts industry today in every line of business. In past year if a machine wore out, or became unproductive because of wear, one could easily and quickly replace it with a new one.

Nowadays, new machinery can rarely be had at any price, and the question of maintenance of what you now have takes on greater importance than it has ever had before.

The incident cited in this article took place in a metal-working plant, and at first glance you might wonder what connection steel chips from a planer could possibly have with the textile industry.

The final results, however, will apply to any manufacturing business, no matter what its field may be, and the penalties will be the same, unless you find the way to counteract the cause.

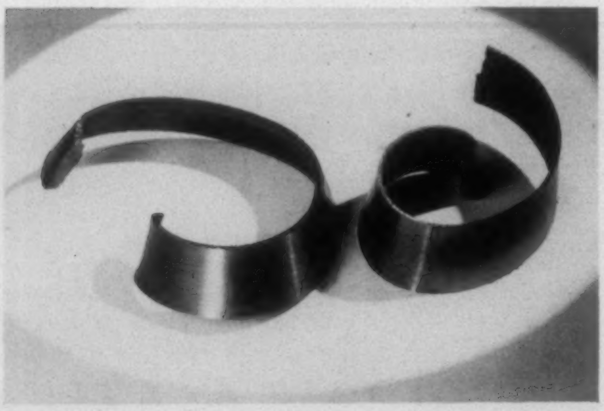
The accompanying picture shows some chips from a planer that are highly significant symbols. There is a mechanical significance in these chips, to be sure, and that is important, for it has a bearing on what will follow.

The chips are of tool steel, and are one inch wide by full 3/32-inch thick, which is a good cut in any man's shop. The planer which produced these chips is a 48-inch machine, and work weighing up to four and five tons is handled.

Drive trouble was frequently present, as the 3½-inch belts would not always carry the full load and keep the planer running at its capacity. Analysis showed the belts to be insufficient both in thickness and quality.

The leather belting engineer who was consulted installed a three-ply extra heavy first quality belt on the forward drive where the cut is made, and a two-ply heavy first grade belt on the reverse drive, and the planer will now produce what is demanded of it.

Of course, the obvious feature of the installation is that the manufacturer consulted a belting engineer and followed his recommendation, putting on belts that would pull the load when he finally learned what he needed.



There are more subtle features, harder to see, but they are there just the same. Belts sometimes fail through no inherent weakness, not because some other form of drive should be used, but because every factor is not considered. Here is where the psychological quirks come in.

Today's work is being done under incredible pressure because of the urgent need of our armed forces. Unusual demands are being made, particularly on metal-working machines, that are very different from what used to be considered standard practice. Penalties are being imposed for late deliveries and bonuses are paid for deliveries ahead of schedules.

This breeds in the mind of the manufacturer the need of putting pressure on the plant to get out the work faster. So superintendents, foremen, schedulers and expediters demand thicker chips, fewer passes, anything for more production. And the strain on men and machines is correspondingly greater.

Special Incentives

Incentive bonuses are paid to the workmen, and piece-work rates are assigned to the various operations. So more speed, more pressure again, resulting in thicker chips and fewer passes to earn the bonus and fatten the pay envelope. Men are working with insufficient rest, their timing and judgment impaired thereby. So machines are crowded, loaded beyond their supposed capacity, are really abused.

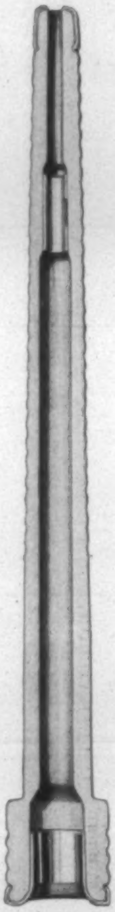
Often a piece of work comes into the shop with a red "RUSH" ticket on it and a job that would normally go on a small machine has to be done on a larger one. And management looks only at the size of the job and thinks that because it is small the bigger, heavier, slower machine must get it out just as soon as the smaller one would do it. So pulleys are changed around and again speed and pressure get in their work.

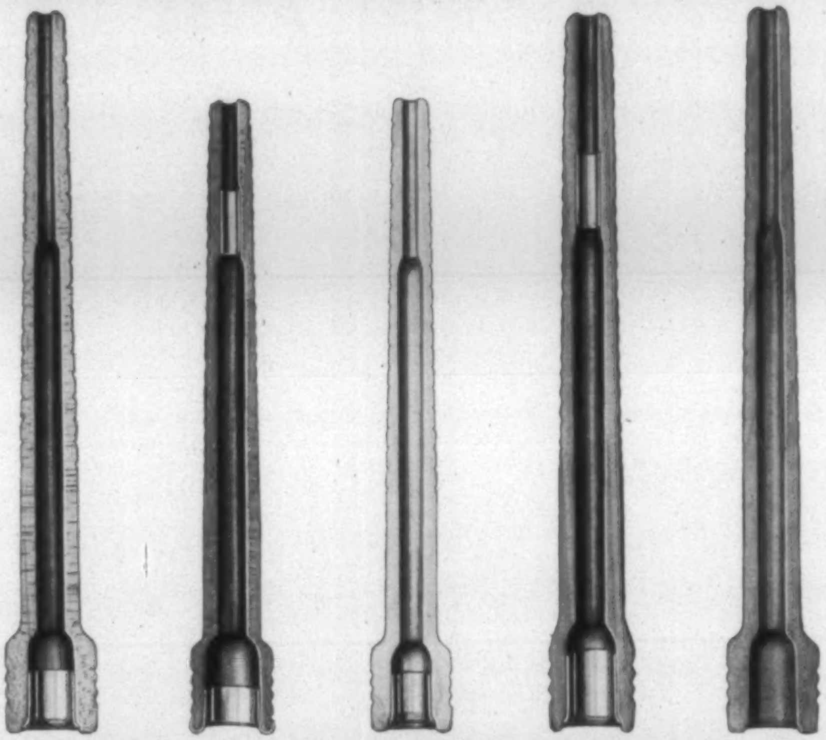
Machines built for one kind of a job are equipped with different jigs and chucks and made to do things their builders never had in mind.

Although man-failure caused by overstrain and not enough rest is hard to combat, you can more easily meet your mechanical problems. Just as you use harder steels for machining, and heavier equipment for larger work, so you should use heavy enough belts, of sufficient width and particularly of good enough quality to stand up under the demand.

Look around you on the street car or bus and see the men sleeping on their way home from work. Note the number of men whose hearts fail because of the strain and pressure. Go through your plant, read the reports of mechanical failures in it, and then look for the cause. Too often, it will be found in the urge for "thicker chips and fewer passes." That is why things fail.

U S AUTOMATIC LOOM BOBBINS!





These top and bottom bushings, also the combination bushings and shields, are made to fit your spindles.

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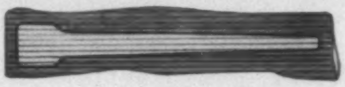

With U S "split" stock the turning follows the grain. Makes stronger, smoother, better balanced, truer running, longer lasting bobbins.

U S Bobbins are built to exact specifications and machinery maker's standards, for true running vibrationless operation – for perfect winding at specified spindle speeds – for accurate, automatic positioning in the shuttle, firm hold, free runoff and dependable release.

Originators of automatic loom bobbins, U S Bobbin & Shuttle Co. uses only straight grained "split" stock in the manufacture of its bobbins. They are conditioned and finished, inside and out, to resist distortion from heat and humidity.

Tested on the customer's spindles, at the mill's own spindle speeds, they are guaranteed to run commercially true and be true to gauge – your best assurance of trouble-proof operation and well woven cloth.

Ask our technically trained, mill experienced U S Representative for help in licking operating troubles. The complete line of U S Textile Accessories – Bobbins, Shuttles, Spools, Cones, Rolls, Tubes and other items – have helped set new records for many mills.

THE SEAL OF QUALITY AND SERVICE SINCE 1857

U S WHY NO. 2 Watch for more U S WHYS in these pages

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ALABAMA AGENT: Young & Vann Supply Co., Birmingham

MILL NEWS

DANVILLE, VA.—Riverside & Dan River Cotton Mills will distribute a $3 cash dividend on shares of preferred stock payable July 1 to stockholders of record June 19.

LAGRANGE, GA.—The Textile Welfare Association has begun its annual summer recreation program for employees of Callaway Mills. Swimming pools and playgrounds at LaGrange, Milstead and Manchester are now in operation.

GREENVILLE, S. C.—Officers of Judson Mills were re-elected at a recent annual meeting of stockholders, at which time net earnings of $482,991.77 were reported for the year ended March 1. This compares with $541,741.72 reported for the previous fiscal year. No action was taken on dividends.

GASTONIA, N. C.—Both the Ranlo and Modena plants of Ranlo Mfg. Co. have joined the rapidly growing list of mills entitled to fly the Treasury Department's Minute Man flag, given for co-operation in the nationwide war bond program. Each of the plants has in excess of 90 per cent of its employees enrolled in the voluntary payroll deduction plan.

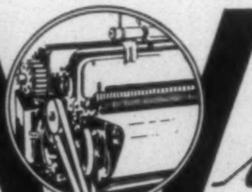
ELKIN, N. C.—Chatham Mfg. Co. has made arrangements to buy the wool output of Alleghany County in North Carolina, together with Ashe, Grayson and Carroll Counties in Virginia. The wool crop from these counties is expected to be around 70,000 pounds. The wool will be collected at central points, and sheep raisers who have not yet pooled their wool are expected to join in the marketing plan.

FITZGERALD, GA.—Due to a critical shortage of labor, Fitzgerald Cotton Mills began operating only on two shifts per day June 1. Previously three eight-hour shifts have been operated each day, and stopping of the third shift has released approximately 125 workers.

BLUEFIELD, W. VA.—Esmond Mills, Inc., has arranged for the opening of a plant employing 150 persons which is expected to be in full operation early in the fall. The plant will produce blankets and robe cloths for hospital and household use. The company, which has taken a three-year lease on a former handkerchief factory, already operates blanket plants at Waynesboro and Lynchburg, Va.

LANETT, ALA.—Approximately 40 per cent of the employees in the plants of West Point Mfg. Co. and Lanett Bleachery and Dye Works are women, with many of them on jobs formerly held by men. In the mills women are weaving, doffing and sweeping as well as doing other jobs which do not require unusual strength. At the dye works, 300 women are now employed where 60 worked in pre-war days.

CUMBERLAND, MD.—A recent blast in the cellulose acetate building of Celanese Corp. of America injured at least 14 persons. Four large holes were blown in the roof of the structure. The building had been opened since the start of the war. The plant is the oldest and largest acetate rayon producing plant in the country. About 1,000 workers will be idle for a few weeks while repairs are being made. Vacation pay for employees out of work is being arranged to offset the period of idleness.



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THE KEEVER STARCH CO., COLUMBUS, OHIO

Speed the

WAR PRODUCTION

of the Spindles you have

... by replacing your
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Tension Pulleys with

MEADOWS

**BALL BEARING
UNITS**

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What Is Humidity For?

For an unsuspected purpose in textiles. And a very much better job with the help of

Certified Climate

Air enters through mixing chamber

Regain higher and more dependable. Greater strength and more uniformity in numbers.

Propelled through ducts, graduated

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.

Uniformity of many outlets

Fewer Ends Down. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.

Better Product from shorter, less expensive staple. And very often 2% to 3% more production.

Automatic shutters let heat out

Certified CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

PERSONAL NEWS

Nathan Dearman is now overseer of spinning, warping and winding at Samoset Mills, Talladega, Ala.

J. L. Rhinehardt is general overseer of spinning, spooling, twisting, warping and winding at Chronicle Mills, Belmont, N. C.

R. A. Willis, executive vice-president of Manetta Mills, Edgemoor, S. C., was married recently to Mrs. Anna C. Tate of Kansas City, Mo.

Dan C. Lawrence, former president of Seaboard Mills, Inc., Elberton, Ga., has entered Naval service as a lieutenant and is stationed at Charleston, S. C.

F. W. Symmes of Greenville, S. C., president of Union-Buffalo Mills, has been added to the board of Santee Cotton Mills, Orangeburg, S. C.

Edwin Howard of Greenville, S. C., Southern representative of Veeder-Root Co., recently underwent a major operation at Sanford, N. C.

Ben Thomas, formerly traveling circulation representative for TEXTILE BULLETIN, is now foreman of the paint crew at a Moss Point, Miss., shipyard which is working on war orders. He will return to his former position at the war's end.

Earle R. Stall of Greenville, S. C., has been elected president of Florence Mills, which operates plants at Forest City, N. C., and the American Spinning Division at Greenville. Mr. Stall is also president of F. W. Poe Mfg. Co. at Greenville. He succeeds Allen F. Johnson, who was elected chairman of the board.

Kenneth Karns

Dayton Rubber Mfg. Co. announces the appointment of Kenneth K. Karns as representative in the South Carolina area formerly handled by W. L. (Bill) Morgan, who has entered the Army. Mr. Karns' years of experience with Dayton Rubber during the research and development of Dayton's textile products will enable him to render valuable service to textile mills in solving their loom and spinning frame problems. Bill Morgan tendered him a farewell party recently at the Greenville Country Club just prior to his departure for Fort Jackson. Many of his business and social friends were present to wish him the best of luck in his new duties.

Fred K. Morris, formerly of Riverside & Dan River Cotton Mills, Danville, Va., has succeeded A. V. Wright as overseer of spinning at Merrimack Mills, Huntsville, Ala.

Howard Snow, president of Southern Friction Materials Co., Charlotte, N. C., has been appointed to the War Production Board's Asbestos Friction Material Industry Advisory Committee.

George Waterhouse, formerly purchasing agent for Kendall Mills, has been promoted to captain in the Ordnance Department of the United States Army. He entered the service May 9, 1942.

Lieutenant E. A. Terrell, Jr., son of the president of Terrell Machine Co., Charlotte, N. C., was transferred recently from Fort Knox, Ky., to Fort Riley, Kan., and from there to desert maneuvers.

Hugh D. Haley of the engineering department of American Viscose Corp., Wilmington, Del., has been named to the committees dealing with plastics and electrical insulating materials of the American Society for Testing Materials.

George McAden, brother of James McAden, associate editor of TEXTILE BULLETIN, has graduated from Christ School, Arden, N. C., and entered the freshman class at Davidson (N. C.) College.

J. B. Meacham, manager of Insulating Yarn Co. of Charlotte, N. C., has become superintendent and manager of Balston Yarn Mills, Inc., Lincolnton, N. C. He will continue as manager of Insulating Yarn Co., with his son, Henry C. Meacham, as assistant manager.

W. H. Randolph, III, son of W. H. Randolph, Jr., manager of the Southeastern division industrial sales department of A. E. Staley Mfg. Co., has entered the Navy as an ensign. He will take his preliminary training at Corpus Christi, Tex., before being given advanced duties.

J. Bruce McCullough, vice-president of Avondale Mills, Sylacauga, Ala., is now chief of the combed yarn unit of the War Production Board's cotton branch. He was chief of the WPB webbing and braiding section until last August, when he returned temporarily to private business.

Comer Jennings, Jr., son of the president of Cowikee Mills, Eufaula, Ala., and a student at Culver (Ind.) Military Academy, was honored recently when his entries in the sculpture and ceramics division won recognition in a regional art exhibition at Indianapolis, Ind.

Houghton Wool Tops

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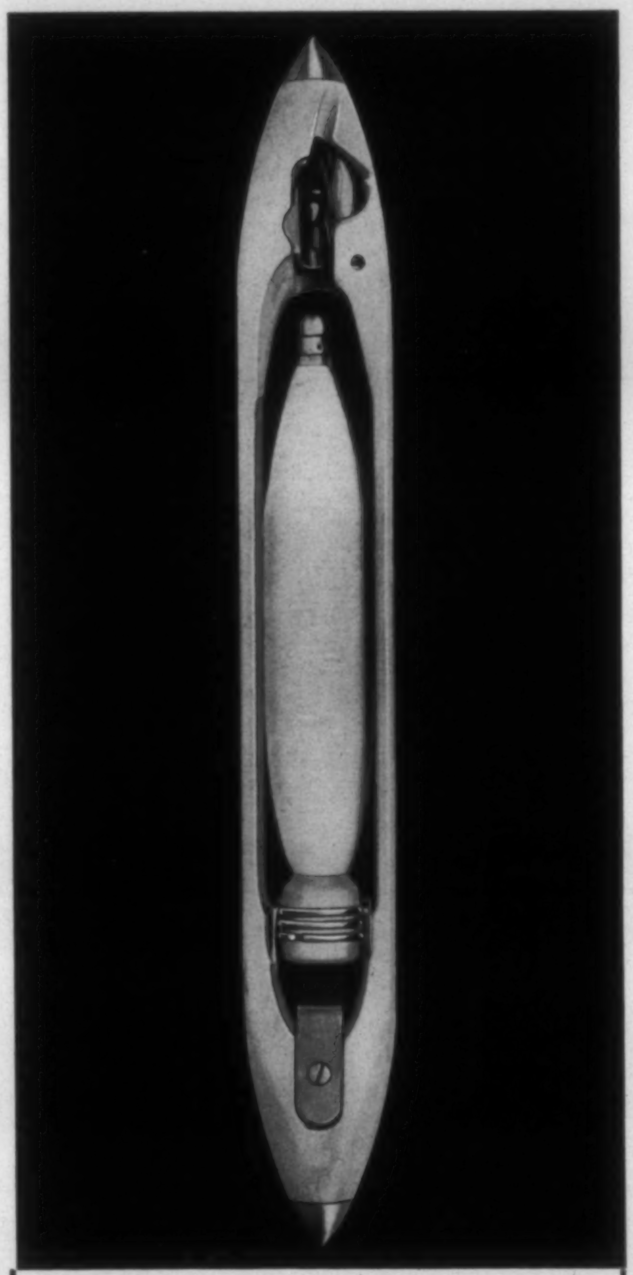

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TEXTILE BULLETIN

Member of
Audit Bureau of Circulations and Associated Business Papers, Inc.

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David Clark	President and Editor
Junius M. Smith	Vice-President and Business Manager
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Ellis Royal (On leave in U. S. Army)	Associate Editor

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

New Edition of Clark's Directory of Southern Textile Mills

We have recently mailed data blanks for the 62nd Edition of Clark's Directory of Southern Textile Mills with a slip expressing the wish that they be returned promptly.

About 85 per cent of the blanks have been returned, which is a larger percentage than usual at this early date, but we know that it usually requires much time and many requests to obtain data from all of the remaining 15 per cent.

The accuracy of Clark's Directory of Southern Textile Mills has long been a matter of pride with us and we are unwilling to go to press until we have a report from every mill.

We will appreciate the return of the data blanks by those who hold them because all of the former edition of the Directory have been sold and we now have a large file of orders waiting to be filled.

We usually send a representative to pick up those blanks which are not returned promptly but the restrictions upon gasoline make such action difficult at this time.

For many years, beginning July 1st, 1911, Clark's Directory of Southern Textile Mills was compiled and published twice each year but for the duration of the war, beginning with the 1942-43 edition, it is being published only once each year.

Research vs Research

Our editorial of May 15th entitled, "No Certainty About Research," while approved by most cotton textile manufacturers, was misunderstood by a few.

We have always been interested in textile research and have done much to promote it.

We had a considerable part in organizing The Arkwrights under whose auspices tests were made in mills by members of the Southern Textile Association and, accompanied by Marshall Dilling of Gastonia, N. C., we appeared before the Textile Foundation of Washington, D. C., and secured an appropriation of $5,000 for research in the mills.

Under that appropriation G. H. Dunlap was employed and the tests made by him, which showed that card cylinders could be operated at much higher speeds than customary without damage to the strength of the cotton yarns produced, enabled mills to increase their production at the time that the Government was calling for more cotton goods and the increased production greatly increased the profits of many.

We recently joined W. J. Carter of Greensboro, N. C., in his effort to raise $600,000 for the enlargement and improvement of textile education at North Carolina State College and we insisted that a man be attached to the textile school who would devote his entire time to research work in textile mills and that later a second man be added who would devote his time to research in knitting mills.

We are in full sympathy with the movement of Fuller E. Callaway for the establishment of a cotton textile research organization and believe that it can accomplish much if kept under the control of textile manufacturers and its operations directed by them. We have reason to believe that such will be the case.

In our editorial of May 15th we said:

> In our opinion the results will depend upon the ability of the men who are to be financed in this work and the methods they use, and these men should be selected with the greatest possible care.

We believe that excellent results can be expected from certain types of cotton textile research while results from other types are so uncertain, and so doubtful, that we question the advisability of spending large sums of money for them.

For many years highly technical textile research has been conducted by an institute at London, Eng., and another at Manchester, Eng., but prior to the present war the cotton spindles in England had shrunk from 58,000,000 to less than 30,000,000.

It was the failure of these many years of research in those two institutes to do anything worthwhile for the cotton mills of England which first aroused in our mind a question about the value of highly technical cotton textile research.

One of our friends writes that the Government textile research laboratory at New Orleans was not intended for cotton textile research but was entirely for the improvement of cotton, but he is wrong.

According to the announcement made at the time of the establishment of the laboratory, it was for both cotton and cotton textile research and it was first planned to establish two laboratories, one of which was to be located in a cotton mill section. We know this because we attended a meeting designed to locate the textile laboratory at Statesville, N. C.

A large number of men, some say as many as 300, have been employed for several years in the laboratory at New Orleans, but we do not think that any cotton mill has been able to produce more goods, or better goods or a single new fabric as the result of its work.

The only major improvement in cotton goods in recent years, sanforization, was developed by Cluett, Peabody & Co. in its own plant. It did not come as the result of the work of a research laboratory.

The heat resistant automobile tire was developed at the Bibb Mfg. Co. and not in a research laboratory.

The paper industry has been very successful in producing substitutes for coarse cotton goods.

The synthetic fiber industry has done a wonderful job in producing and constantly improving many types of yarns and fabrics which take the place of fine cotton goods.

We wish that there was evidence that through research new types of cotton goods could be produced and thereby the competition of paper and synthetic fibers pushed back, but we see little prospect of it.

It would be much easier for us to join the enthusiasts and shout that all the cotton textile industry has to do is to raise large sums of money and turn it over to so-called scientists and, presto, there will be new cotton textile goods which can compete with paper and synthetic yarn goods, but we do not believe that it is for the best interests of the cotton textile industry for us to take any such position.

If highly technical cotton textile research is such a good investment for the cotton textile industry why do not those who have been engaged in such work for years and years not come forward and lay upon the table some concrete examples of laboratory developments which have enabled cotton mills to produce new and better fabrics?

We take the position, and in the absence of some definite results for highly technical research, will continue to take the position that the best policy for cotton textile mills, is to work toward improvements in cotton mill processes and in the operation of cotton mills.

We are firmly convinced that much can be done through that type of research but can see nothing which causes us to believe that much can be done along other lines.

We hope that we are wrong but have the idea that time will prove that we are right.

Those who are enthusiastic about highly technical cotton textile research have to paint pictures of future possibilities because they have no exhibits to place before the cotton manufacturers whose funds they seek.

We predict that two years from now there will still be only pictures of the future.

The Favored Class

The John L. Lewis strike has not been definitely settled and there are many who believe that, in spite of his defiance of our Government and his willingness to disrupt war production, he will eventually obtain almost all that he has demanded.

The *Wall Street Journal* well says:

> From people very close to President Roosevelt himself we have heard that strikes—and never mind too much about the justification — were praiseworthy under pretty nearly all circumstances. In many of these strikes there has been a studied and premeditated violation of the laws for the protection of persons and property. Not only has the Administration at Washington made no move to prevent these, but also the occasional condemnation of them has been faint and puny. One could continue the lists of both actions and inactions to some length, but the story is familiar enough.

President Roosevelt appears to be entirely willing for labor racketeers to become a class of "special privilege" men even to the point that he can direct the members of their organization to shut down war industries whose production is vital for our soldiers abroad.

Tax Notices for Employees

The Government has requested that a slip containing the following be placed in all employees' envelopes beginning July 1st, 1943:

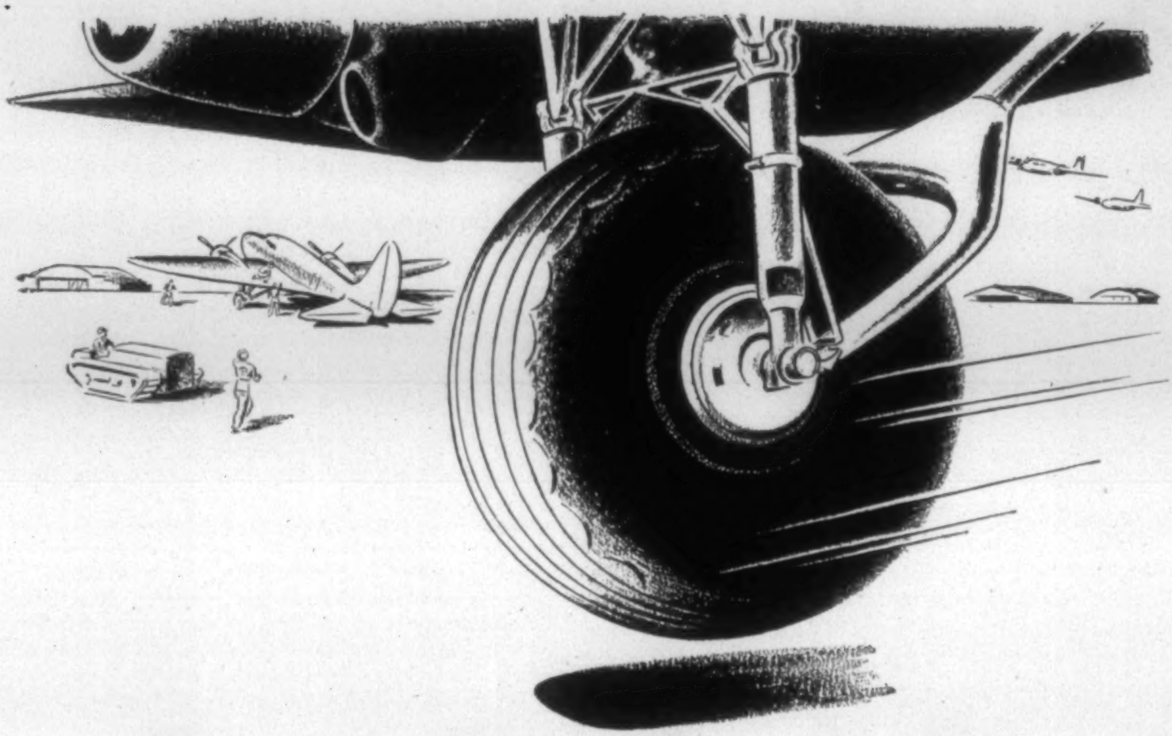
"The new 'pay-as-you-go' income tax law became effective July 1st, 1943. It requires your employer to withhold a certain portion of your pay. This amount is not a new tax, but is in payment of your regular Federal income and victory tax.

"Beginning with the pay you are receiving today, your employer has withheld this tax from your wage. Therefore, you have now begun to pay your regular income and victory tax as you earn the income subject to that tax.

"The money withheld is not kept by your employer, but is turned over to the United States Treasury. It is your money and stands to your credit as a prepayment of your Federal income and victory tax.

"After the close of the year your employer will give you a receipt showing exactly how much of your money has gone to the United States Treasury toward the payment of your taxes. Keep that receipt. It is your evidence of tax paid.

"Any Federal income tax payments you made during the first two quarters of this year (March 15th and June 15th) stand to your credit on this year's income tax."



Rayon Tire Cords Stand Up in Shock Landings

Huge air transports loaded with men and supplies must have tires that can "take it."

Tire cords made from high-tenacity rayon yarn are used on cargo planes and bombers to take the shock of high-speed landings and take-offs.

Rayon cords provide the strength and resiliency needed for tires on jeeps, trucks and motorized artillery. Tires run cooler, give longer mileage and require less of our limited supply of rubber.

The Butterworth Organization has developed and is now building high-tenacity rayon spinning machinery. We will continue to give our best efforts to increasing rayon production for war use.

Butterworth Machines play their part in the battle of production at every step in the Wet End of Textile Finishing—bleaching, boiling-out, drying, calendering, dyeing.

The cooperation of Butterworth Engineers is freely offered to every mill seeking to achieve increased productive efficiency... or to repair or replace worn-out or obsolete equipment.

All of our facilities not required for Ordnance production are available to help you solve your problems. Let our experience serve you now.

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Offices in Providence, R. I. and Charlotte, N.C.
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of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

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PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY

DYEING AND FINISHING

Turning Minus Products Into Plus Ones

By GEORGE BROUN

Part Four—Casein Fibers

THE development and manufacture of a synthetic textile fiber from casein, derived from skim milk, dates back about 40 years when a Prussian chemist, Todtenhaupet, claimed to have worked out a process and applied for German patents.

From this German technical discovery there were no practical developments on a manufacturing scale and this proposed process of making a synthetic fiber was not heard from again until early in 1934, when an Italian chemist, Ferretti, worked out a manufacturing method of practical importance.

In conjunction with the Italian government, the Ferretti process was developed into one of practical importance for Italy and European textile manufacturers. This casein fiber became known as lanital, a word formed from lan (lana, wool) and ital (for Italy).

The Italian government specified the use of lanital up to 30 per cent in combination with wool in the manufacture of its military and naval uniforms. Other European countries pushed the manufacture of similar casein fibers, which were made under various names in England (casein, fiber), Germany (trolon), the Netherlands (casolana) and Belgium (cargou).

In the United States, through the development work of Gould and Whittier of the United States Department of Agriculture, a patent was issued for a proposed manufacturing process which was issued and approved for the free use of the people of this country.

The Gould and Whittier patented process has been carried into a practical manufacturing process by Aralac Co., a division of National Dairy Products Corp. at Taftville, Conn.

According to many authorities, the Gould and Whittier process as developed in aralac, possesses many improvements over the Italian lanital fiber. This may be due to the following reasons:

1. The Gould and Whittier process, although developed through efforts of the Department of Agriculture, was placed on a practical manufacturing basis through the independent development efforts of Aralac Co.

2. The Aralac Co., with the immense resources of National Dairy Products Corp., was able to obtain a uniform source of skim milk for the manufacture of casein, while there is some doubt about lanital and European synthetic casein fibers being manufactured on this basis. In some countries there was a possible substitution of protein compound from soybeans, due to lack of skim milk supplies.

3. The Aralac Co. had the good fortune to be able to study the European-made casein fibers, as well as their basic patents, and from such a study were better prepared to make a superior fiber.

4. Due to wartime conditions, Aralac Co. was fortunate in that it could carry out experimental development work in many textile plants of all types for the adoption of aralac in various manufacturing processes and manufactured yarns, fabrics and goods.

Manufacturing Process

Casein is the original compound used to start up the manufacture of this synthetic fiber; hence its name. The production of casein is carried out under plant controlled operations by an acid treatment of skim milk, which produces a curd which is purified through washing and is dried ready for the next manufacturing operation. The dried casein curd is then dissolved into desired concentration of water solution, through an alkaline treatment. This alkaline casein solution, after proper ageing, is then forced through spinnerettes entering into an acid bath containing various metallic salts such as zinc and aluminum with a desired amount of an aldehyde.

The acid bath solidifies the casein fiber which is then given further chemical treatments, as well as washings to prepare it for use as a textile fiber.

It is of practical interest and value to mill chemists, dyers and finishers to know the comparative chemical and physical properties of wool, aralac and anital. These three fibers are reported to show the following average analyses:

	Aralac Per Cent	Lanital Per Cent	Wool Per Cent
Carbon	51.23	53.0	49.25
Hydrogen	7.01	7.0	7.57
Oxygen	26.93	23.0	23.66
Nitrogen	13.29	15.5	15.86
Sulfur	0.72	0.7	3.66
Phosphorus	0.82	..	...

From a chemical viewpoint, wool and aralac are quite similar in most basic chemical compounds except sulfur.

Wool contains approximately five times as much sulfur as these casein fibers, and it is due to this difference in chemical structure that adjustments are required of wool preparation, dyeing and methods whereby they can be used satisfactorily on processing aralac.

The moisture take-up (hygroscopic content) of alalac averages 6.75 per cent while wool is approximately 11 per cent. When these fibers are placed under standard humidification conditions of 70° F.—65 per cent relative humidity—aralac shows greater pick-up or moisture content of around 14 per cent while wool usually shows 12.5 per cent.

This is a *very important* physical property to be taken into consideration on finished goods, for the finisher may add special softener to give a softer hand, but when these finished goods are conditioned, they may become too raggy for a satisfactory hand and brush.

In physical appearance, aralac staple stocks is soft and possesses a silky wool feel. Dry aralac fibers and yarn possess approximately the same breaking strength as wool, but wet aralac shows some characteristics of viscose rayon—that of decreasing in tensile strength.

Thus, the finishing plant officials must work out safeguards to protect the aralac fabric against excessive heat and alkaline action tha tmay damage fiber and careful handling to prevent undue loss in tensile strength of the finished fabric.

From routine tests, carried out in various plants on aralac shipments, the pH value averages 3.7 to 6.0, usually close to 5.00 pH. Due to this acid condition of the fiber, great care must be exercised in the scouring and preparation of this goods. All soap and alkalies could be omitted and only synthetic detergents used to secure the best and more uniformly prepared goods. Whenever it is necessary to use the mild alkalies, these should be kept to a minimum amount so that the pH of the processing bath will not show greater than 9.5 with a processing temperature of 140° to 170° F. and an operating time of not over 60 minutes.

Some of the mild alkali suggested, and now being used in the scouring of goods containing aralac, are: tetra sodium pyro phosphate, di-sodium phosphate, borax, sodium bicarbonate and sodium silicate. The alkalies are used in conjunction with synthetic detergents such as National Aniline's Nacconal NR, DuPont's Gardinol and General Dyestuff's Igepon T Gel. The use of these sulfonated alcohols or synthetic detergents helps to keep the excessive felting of aralac to a minimum.

Under all circumstances the use of soaps is dangerous, as the acid nature of aralac fiber tends to combine chemically with the alkaline soap compound, and after the goods have been dyed, dryed and finished, these goods will dust heavily due to the use of soap.

This dusty condition of the finished goods can be reduced to a minimum by using synthetic detergents in place of soap. It has been found advisable to analyze all of these detergents for free alkali content as some used noticeable amounts of soda ash and other alkalies which were not so mild.

The use of highly buffered liquid peroxide bleach baths is preferred for bleaching aralac at lower temperatures of 140° F.-160° F. Plant bleached lots that have been given an acetic acid rinse with bisulfite of soda have shown very good permanent whites.

The bleached goods also are suitable for dyeing pastel shades, giving uniformly dyed and level shades.

Direct dyestuffs used for all spun viscose rayon goods have proven quite satisfactory for dyeing aralac. Occasionally it has been found necessary to use acid wool dyeing colors, either of the neutral or acetic acid type, to cover up the aralac completely. A majority of these direct colors, if dyed at 150 to 170° F., usually go on the aralac in lighter shades than on the rayon, but if dyed in neutral bath at 190° F.-200° F., will show better union dyed shades between the viscose rayon or cotton and aralac. Dyeing at the higher temperature for shorter dyeing periods is the trend in present dyeing of goods of this construction.

(*To be continued*)

When we introduced TEXTORIC, the synthetic loom strapping, we suggested *trial* orders and *test* runs. We still offer TEXTORIC on this basis, but we now have plenty of experience records—proof under actual production conditions .... TEXTORIC is an important development in loom strapping—uses no critical materials. A synthetic of scientifically controlled uniformity with great strength.

W. D. DODENHOFF COMPANY
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Threat To Textile Industry Is Seen In Corn Shortage

An imminent threat to the operations of the cotton-textile industry is contained in the announcement of the corn refining industry that because of diminishing corn supplies it may become necessary within a month to shut down the dozen or more plants now producing starch and other products of corn, according to the Corn Industries Research Foundation.

Textile manufacturers, it is well known, are large and continuous users of starch in the weaving and finishing of cotton textiles. Rayon producers are users of corn sugar, another product of corn refining.

The cause of the situation is the almost complete stoppage of corn shipments to the terminal markets of the country, which means, of course, that the corn refiners are unable to buy the chief raw material used in their operations.

Nothing like this has ever happened in the 50 years' history of the industry. It is the unexpected result of the corn-hog policies initiated by the Secretary of Agriculture some time ago, says the foundation.

OBITUARY

LIEUT. HARVEY W. MOORE, JR.

Lieutenant Harvey Wilson Moore, Jr., U. S. Naval Reserve, son of the manager of Brown Cotton Mills, Concord, N. C., is missing in the performance of his duties, according to a message received at the family home in Charlotte, N. C. Lieutenant Moore studied at McCallie School, Davidson College, the Naval Academy and Philadelphia Textile School, and was in the textile business in New York before entering the service. When last heard from he was on submarine duty. He is survived by his wife, father, mother and a sister.

LIEUT. CHARLES McKINNEY

Lieutenant Charles McKinney, Army Air Corps, son of Thomas H. McKinney, former vice-president of American Yarn & Processing Co., Mount Holly, N. C., has been killed in action in the Mediterranean area. He is survived by his parents, who live at Coronado Beach, Fla., and two brothers who are in the service.

H. R. GAFFNEY

H. R. Gaffney, 44, manager of the Atlanta, Ga., branch of Steel Heddle Mfg. Co., died recently following a heart attack. He was active as a captain in the Civil Air Patrol, as well as in civic and textile circles. He is survived by his widow, two daughters, mother and two sisters.

WILLIAM A. WOODRUFF

William Alfred Woodruff, technical adviser to Bibb Mfg. Co., Macon, Ga., and long an outstanding figure in the company's organization, died recently at Macon after a long illness. He began service with the company in 1907, was superintendent at the Porterdale and Columbus mills, and later held the positions of factory manager and general superintendent. Surviving him are his wife, three sons, two daughters, two grandchildren, two sisters and three brothers.

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Reg. U.S. TRADE MARK Pat. Off.
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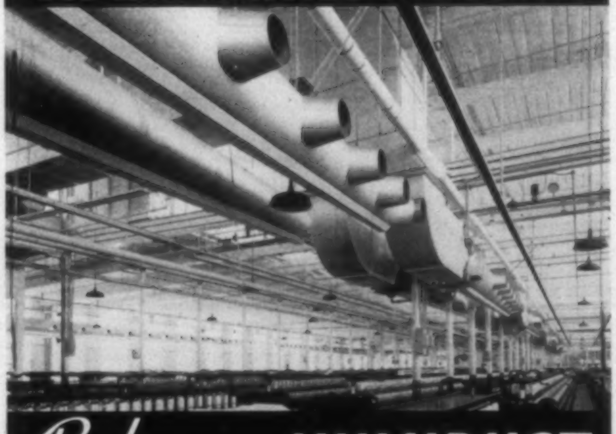
A PLASTIC LINING USED IN PLACE OF FIRE BRICK

LONGER LASTING BOILER FURNACES

"Boiler furnaces lined with CARECO last two to four times longer than those lined with fire brick. Write for quotation."

CAROLINA REFRACTORIES CO.
Hartsville, S. C.

~for the TEXTILE INDUSTRY



Bahnson HUMIDUCT

The Bahnson Humiduct is based on the Unit System that permits of greater flexibility for installation, or for remodeling, shifting machinery and making other changes that alter heat loads in a given room or mill.

The Humiduct principle gives positive distribution and constant circulation. It can supply air in any form — hot, cold, humid, dry, cleaned or in any combination — automatically controlled.

Bahnson Engineers are available for servicing old equipment — priority installations or post-war planning.

Bahnson System
POSITIVE CIRCULATION · LOWER OPERATING COST
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.

Wickwire Spencer Plant Honored Again

Wickwire Spencer Steel Co. has received its first gold star for its Palmer, Mass., wire rope plant from the United States Maritime Commission, E. C. Bowers, president, has announced. This plant last October received from the commission the first Maritime "M" awarded to any plant in New England and at that time "M" badges were given to the plant's 1,500 employees at ceremonies attended by Governor Leverett Saltonstall of Massachusetts.

In recognition of continued outstanding production achievement Admiral H. L. Vickery notified Mr. Bowers that the company should add a gold star to the Maritime "M" burgee and that the "M" badge would be awarded to 325 additional employees.

Wire rope manufactured at Palmer is used extensively in the rigging of Liberty ships as well as for other naval and hundreds of industrial purposes.

TEXTILE FINISHES
for COTTON, RAYONS and MIXTURES

TEXTILE OILS – HEAVY CHEMICALS

Charlotte Chemical Laboratories, Inc.
Charlotte, North Carolina Founded 1914

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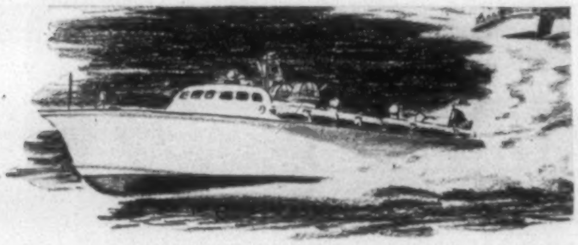


In action Uncle Sam's "PT" boats clip the waves at 70 miles per hour. If their ignition systems fail — they're dead ducks!

To assure trouble-free timing, ignition systems are insulated with phenolic resins — the best non-conductor yet devised. And that's where pure caustic soda is mighty important — as a vital processing agent in the synthesis of phenol by sulfonation.

Mathieson Caustic Soda finds other important war uses in the manufacture of smokeless powder, rayon cargo 'chutes . . . in reclaiming rubber . . . and in refining lubricants and high octane gasoline for America's tanks and warplanes.

Mathieson CAUSTIC SODA
The MATHIESON ALKALI WORKS (Inc.)
60 East 42nd Street, New York, N. Y.

Southern District Sales Office:
Liberty Life Building, Charlotte, N. C.

Marshall Dilling Retires After Fifty Years in Industry

Marshall Dilling, for many years well known as a leading cotton mill executive, has resigned as secretary and superintendent of A. M. Smyre Mfg. Co., Ranlo, N. C. He has retired from active work after spending 50 years in textiles. His son, Marshall Dilling, Jr., will retain his connection with the Smyre firm.

Mr. Dilling, who recently celebrated his 30th wedding anniversary, is executive secretary of the Southern Textile Association, and plans to continue his connection with this group. Mr. Dilling was one of the founders of the Southern Textile Association, and has been one of the most vigorous leaders in its activities.

He began work in 1893 with Gastonia (N. C.) Cotton Mfg. Co., and before the century was out had held positions with Trenton Mills and Ozark Mills. In 1901 he went to work for Springstein Mills at Chester, S. C. In 1902 he moved to Chronicle Mills at Belmont, N. C., in 1903 to Monaghan Mills, Greenville, S. C. His first position as superintendent was at Avon Mill, Gastonia, in 1908. In 1914 he became superintendent of the Cabarrus plant of Cannon Mills, Concord, N. C., and in 1919 was made superintendent at A. M. Smyre Mfg. Co., a post which he has held until now.

Peterson Joins Engineering Sales Co.

James A. Peterson of Atlanta has accepted a position with Engineering Sales Co., manufacturers representative of Charlotte, N. C., and will become manager of its Greenville, S. C., office June 15, replacing A. B. Little, now an officer in the U. S. Navy. The Greenville office is located at 203 Allen Building.

Mr. Peterson is an experienced sales engineer, having been previously connected with Lyon Metal Products, Inc., in the distribution of industrial equipment. This is one of the principals represented by Engineering Sales Co. in North and South Carolina. Other principals include the Gates Rubber Co., Cleveland Tramrail, Standard Conveyor Co., Elwell-Parker Electric Co., Barrett-Cravens Co., and Nutting Truck & Caster Co.

J. A. Peterson

Engineering Sales Co. is owned and operated by S. R. & V. G. Brookshire of Charlotte. The company, organized in 1932, has a large clientele among the textile mills in North and South Carolina. Since its beginning it has specialized in materials handling, power transmission and storage equipment.

Two "E" Awards Announced

Most recent awards of Army-Navy "E" pennants to Southern textile mills include those to the Hillside plant of Callaway Mills, and the Dixie Cotton Mills plant of West Point Mfg. Co., both located at LaGrange, Ga. Presentation ceremonies for both mills will be held June 22.

All American flags for outdoor use are made of cotton.

Mill Man Writes On Human Factor In Safety Programs

(*Continued from Page 21*)

the shoulders of the foreman and his fellow workers. Since the sense of human relationship is the connecting link between the foreman and those under his supervision, it follows that lack of this relationship is a missing link, which may mean disaster to any organization. It is for this reason that the foreman must build his safety program along the lines of this human relationship.

There are many authorities who insist that safety rests entirely with the foreman, that it is his responsibility. Since safety, though, is important to all, it is *everybody's business*. So it is important that the workers assume their share of the responsibility for safety.

To build a good safety program, know your workers and know your business. This applies to the rank and file as well as to the foremen. It is hardly necessary to say that in order to know people you must first understand them. Study their characters, their dispositions, their home lives and their problems. Learn to see things as they see them. Take a look at life as they look at it. When you have mastered this, you have learned the best way to appeal to their understanding and to their thinking. This is important, for unless you are able to appeal to a person, he will not only resent you but what you say about safety (or probably anything else) would go in one ear and out the other.

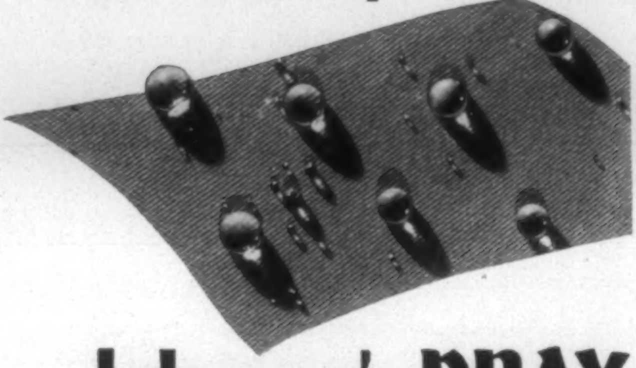
In today's shifting, changing events, you have the opportunity to make safety a part of the job—and not an added feature. Help workers to adjust themselves to the rapidly changing conditions by giving them a chance to release the emotions created by the change. A change or a new method is put into effect and the first natural reaction is to resent it. *Give your workers the real reason for every change and show them the safe way to do the new work.* This is important, too, for regardless of his years of experience with the company, every man needs training for new methods and change of habits, because these methods while they're new and unfamiliar are going to be more hazardous than the old.

There's a human relationship between you and accidents. This is a point on which little if anything is said. Picture in your mind the most horrible accident possible. The injured, suffering from pain, has said at one time or another, "What have I done to deserve this?"

The chances are that the answer is found in one or more of the following reasons: He did not think safely, he has failed to observe safety rules, he failed to observe safety suggestions from his fellow workers, he thought safety was intended for the other felow and not for him. If you have such an attitude, you are working hand in hand with accidents that are waiting to happen. We are all human beings. Our attitudes and habits, our actions and our practice of safety principles are the relationship between us and safety.

In promoting safety, we must bear in mind that the job is never done. It's a continuous process. The method or the appeal you used 12 months ago, even six months ago, may not work today. It may be necessary for you to figure your worker all over again. That is why it is important that you know your men and know your business, for by knowing these, you can develop the human relationship which is a fundamental in the foundation to safety.

Tried this water repellent?



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DRAX *is noteworthy for its ease, simplicity and economy of application*

DRAX *provides even, uniform distribution on entire run of cloth*

DRAX *may be diluted with ordinary tap water*

DRAX *provides high water repellency, helps improve hand*

DRAX *has an excellent "money value"*

Yes, try DRAX. You'll find characteristics in *this* water repellent not found in many others.

DRAX is an aqueous emulsion of waxes, aluminum salts and emulsifying agents, developed for textile finishers. A special method developed by S. C. Johnson & Son makes colloidal particles of DRAX extremely small and uniform in size. The result is much better impregnation of fibres. You'll find DRAX remains completely stable in solution during storage . . . and that its acidity (pH 3.5 to 5) requires a minimum of control.

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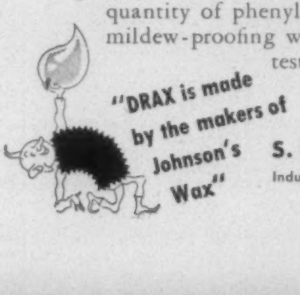
We have developed a special formula to meet the mildew problem. DRAX 1860PMA formula contains sufficient quantity of phenyl mercuric acetate to provide a mildew-proofing which meets the microbiological test for *chaetomium globosum. DRAX 1860PMA DOES NOT LEACH OUT.*


"DRAX is made by the makers of Johnson's Wax"

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SUPERINTENDENT, now employed, would consider change to better position as Superintendent or Manager. 43 years of age, family, energetic, efficient, with years of successful experience on all types of cotton yarns and cloth. Am not interested in offer for duration. Address "K. L. L.," c/o Textile Bulletin.

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WANTED—Position as Assistant Purchasing Agent or Purchasing Agent. Can put supply room on modern method. Age 43, married. Several years' experience in both lines. Address "M. V. H.," c/o Textile Bulletin.

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WANTED—Position as Weave Room Overseer. Would take second hand job. if promotion would be available. 30 years' experience; sober; can furnish good reference. Address "Box 241," c/o Textile Bulletin.

WANTED—Position as Spinning Room Overseer; now employed but desire change. 20 years' experience on spinning; can also run carding and spinning. 41 years of age. Best of references furnished. Address "Box F-2," c/o Textile Bulletin.

MILL SUPERINTENDENT — Aggressive executive type, wants position in cotton or rayon mill, plain or fancy. Twelve years' experience as superintendent. Draft exempt. Best of references. Will come for interview. Address "Box 118," c/o Textile Bulletin.

WANTED—Position as Purchasing Agent for progressive textile manufacturer. Have had 14 years' successful experience buying for a leading textile organization. Class 4-F; age 36; married. Desire change for personal reasons. Address "674," c/o Textile Bulletin.

POSITION WANTED by A No. 1 Carder and Spinner; 15 years' experience on all kinds combination yarns; now employed as Carder and Spinner; been with present employer 6 years, giving satisfaction. For good reason desire to make change. Can furnish A-1 references; sober. Address "Box 308-K," c/o Textile Bulletin.

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SUPERINTENDENT, Carder and Spinner. Employed; above draft age; experienced on all class cotton, yarns, plain and fancy weave. Services available. References. Address "Box H. D.," c/o Textile Bulletin.

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MAN with several years' experience as Supply Clerk wants to correspond with large mill needing man for this position. In best of health and draft exert. Address "Supply Clerk," c/o Textile Bul-

WANTED—Position as Superintendent of yarn mill, or Overseer of large spinning room. Age 43. Experienced on all classes of goods. Good references. Service available. Address "T. P. H.," c/o Textile Bulletin.

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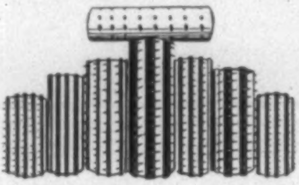

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Working Supervisor in small rayon mill. One experienced in slashing and loom fixing.

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Superintendent for Carded Yarn Mill familiar with manufacturing specialty items such as twine, seine twines, crochet cottons, etc. Must have fair knowledge both mechanical and electrical engineering, also dyeing and finishing.

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Executive for small carded yarn mill. Must be experienced in all phases of yarn business and familiar with regulations on wages and hours, Social Security, priorities, etc. Good health, personal habits, highest integrity essential. Between 38 and 55. Position for duration and six months. Reply to "Executive," c/o Textile Bulletin, giving necessary information in own handwriting.

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We Manufacture, Overhaul and Repair Cotton Mill Machinery"

CHARLOTTE, N. C.

W. H. MONTY, Pres. and Treas.

Safety Through Employee Morale

(*Continued from Page 21*)

top management must delegate responsibility to plant superintendents and foremen. The foreman is the key man. He is the one that is constantly in touch with the workers and upon him rests the responsibility of creating and maintaining safety morale within the ranks of the workers. Therefore, it follows that he must know what kind of appeal will reach and affect the workers.

It is characteristic of workers that their interests may be reached by appealing to one or more of their stronger senses or desires.

It becomes the duty of the foreman and safety director to determine the appeal to be used in creating interest or morale in the individual or group. This requires an understanding of human nature. A good foreman prides himself on his ability to know the individual worker. Almost *instinctively* he selects the appeal that will bring about the best results. In our organization rivalry or inter-department and inter-plant competition is widely used and we feel with much success.

Our safety board stands at the main entrance gate and is plainly visible to the passing public. This board shows the accumulated man hours by departments. When a lost time accident occurs a red light is put up for that department and the man hours reduced to zero. The red light burns until the injured worker returns to his work and then the green light is put back in place.

Contests

Another competitive feature in our organization is the inter-plant contest. Each year the safety director of the group of mills gives a dinner for all the supervisors. A review of the past year's work is made. Outstanding suggestions are discussed and the plans for the coming year are outlined. A trophy is awarded to the mill having the lowest accident frequency for the year. This trophy is awarded quarterly and the mill having the lowest frequency for the year wins the trophy permanently. Monthly standings are published and posted throughout the mills. This standing shows the accident frequency of each department of each mill and the position of each mill in the contest. This contest is very successful in keeping up supervisor interest. Last year the frequency had to be figured to the third decimal place to determine the winner, and both the winner and runner-up had their lowest accident frequency in the history of their safety records.

A very effective method of building employee morale for safety is the employee safety committee. Plants vary the function of these committees. Appointment of employees to serve on the department safety committee along with the department supervisors has a marked tendency to stimulate their interest in the safety program. It has been our observation that this opportunity of the workers to demonstrate their ability in a semi-official capacity is one which is keenly desired and enthusiastically fulfilled.

In our opinion no other method results in so favorable a reaction upon the morale of the whole personnel. *One thing is essential, however,* and that is to keep the safety committees busy and let those committees have a real part in the safety program.

Of course, the employment office plays a very vital role in building or creating employee safety morale. Here the new employee is told of the safety record, the management's interest in his well being; he gets his copy of the safety rules that apply to his job. He is told that his supervisor will point out the hazards on his job and show him how to operate his machine or perform his duties in a way that will be safe to himself and his fellow employees. In our plant each new employee gets a copy of safe practice rules and his shift foreman reviews these with the new employee. This review is, we think, an intelligent example of follow-up that is vital to the success of any program.

In order to keep the safety program alive and to keep employee morale high in regards to safety, we have found that special stunts have to be used. These stunts might be termed shots in the arm. Special safety "stunts" revitalize interest in the accident prevention program. There are any number of stunts thac tan be used. Old ones can be dressed up and given an up-to-date appeal.

Slogans can be used very successfully, especially if the slogans used come from the workers. One company that I know of puts on a slogan contest and awards prizes for the outstanding slogans. These slogans should be judged by a committee made up of both workers and supervisors. Prize winning slogans then can be used on bulletin boards and in plant paper. Cartoons can be worked the same way.

We have used the white elephant idea to good advantage. When a lost time accident occurs in a department the safety director places in that department a "white elephant." The elephant stays in the department until the next lost time accident occurs. When the plant reaches 1,000,000 man hours the elephant is carried out of the plant and placed in a corral at the safety scoreboard. We have moved the beast out of the plant only once.

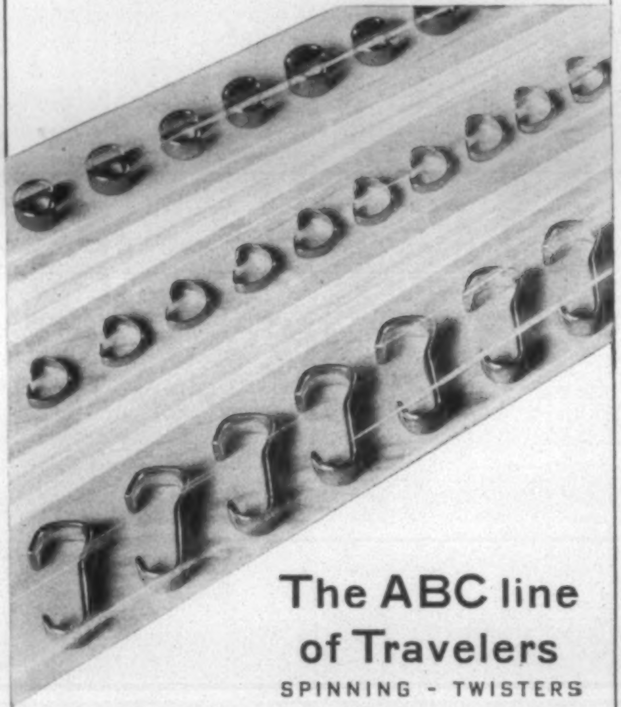
Posters and Publications

Posters and cartoons can be used to put across the safety message and to build employee morale. All kinds of posters can be obtained and used to an advantage. We like best the cartoon and photograph method, rather than the commercial or bought posters. The reason for this is that cartoons made by employees in the plant have a personal appeal. Especially the photographs made of the employees —it is simply, I think, what we all know to be true—that a person naturally likes to see a picture of himself or his fellow workers. In other words, the photographs and employee cartoons seem to be just a little bit more personal.

Many plants use their plant paper or magazine to very good effect in creating and maintaining safety morale. Safety is largely a matter of salesmanship and certainly safety through employee morale is a matter of putting over and getting the workers to want and practice safety. One of the most effective agencies for putting this over is the plant paper. The average worker is not wilfully careless and certainly no worker deliberately wants a serious injury, but he does tend to drift into habits of indifference and carelessness as he goes about his work so that it becomes necessary to constantly remind him to follow safe practices. Here the plant paper does its job.

Constant publicity is necessary to keep morale up. We have discussed attitudes of top management, safety contests, safe working practices and instructions, stunts, posters, slogans and plant papers. The message must be presented constantly and tactfully.

Precision Bullets
to help make
Hitler's Shroud



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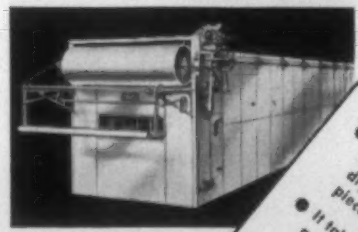
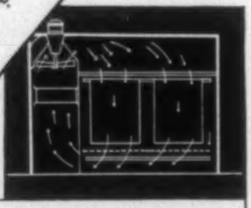
PROCTOR Loop DRYER



- This is a completely new type of automatic loop or festoon dryer for drying dyed or finished piece goods without tension.
- It takes goods as it comes out of a finishing quetch, or in the case of dyed goods, from a truck.
- The material is carried through the dryer while heated air, circulated at high velocity by fans of special Proctor design, is directed down into each loop.
- As the girts on which the goods is suspended move through the dryer, they revolve intermittently, so that no part of the goods is in contact with anything for any appreciable length of time.
- The New Proctor Loop Dryer assures perfectly uniform results and offers unheard-of capacity in a very compact unit.



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It is the "little things" that often affect the results. Today, more than ever, these "little things" (Travelers) must be carefully observed so there will be no question of results.

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Box 236, Itasca, Texas

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

Dyeing Spun Rayon and Aralac Piece Goods

(Continued from Page 26)

has the following prepared processing bath per 1,000 gallons:

3 per cent desizing agent (based on the weight of the goods)
1 per cent penetrant (based on the weight of the goods)
50 lb. salt
4 lb. Katonol W

Raise bath at 135° F. and run 30 minutes. Add pad color solution to bath and raise to 160° F.

Dye for 30 to 60 minutes until approved shade on spun rayon is obtained, then drain off three-fourths of dye bath and bring up with water, adding one quart of 56 per cent acetic acid to bath and raise temperature to 160° F. Sample goods for depth of shade on aralac; if not heavy enough, add in prepared acetate or neutral dyeing acid color and run 30 minutes at 160° F. before sampling. On some constructions of goods, the desizing agent is omitted and for such a bath it is usually not necessary to drop any of the dye bath, but add the acetate or wool color direct to bath at 160° F., then the acetic and run 30 minutes before sampling for shade.

Formula Number Two: Dyeing on a dyeback.

Load the greige goods on beck with the following prepared 1,000-gallon bath at 135° F.:

3 per cent desizing agent (on weight of goods)
1 per cent synthetic detergfent
0.5 per cent wetting agent
Run 30-45 minutes at 135° F.

Drop liquor and prepare fresh bath for scouring at 120° F. until all tinting agent is removed.

Scouring bath—
1 per cent synthetic detergent
½ pt. acetic acid (250 c.c.-56 per cent)
pH of bath—6.5

Run for necessary time to remove tinting of colors, then drop bath and bring up in fresh bath to neutralize: 3 lbs. borax.

Run in neutralizing bath 20 minutes at 100° F.

Then add chemicals in the following order and dye at 160° F.:

3 lbs. Katonol W
1 per cent wetting agent (highly resistant type)
40 per cent salt

This bath can be used for solid shade dyeing or two-color effect. Some dyers may use inexpensive direct colors that cover up the aralac without the use of shading with acetate or acid colors.

For better quality work, the selected fast-to-light direct colors resisting aralac are used.

Some of the tinting colors used on aralac are of acid, direct or acetate type and are difficult to remove by this regular scouring bath, so it is necessary to add a stripping agent such as Decroline concentrated powder to the scouring bath and running at 140° F. to secure well stripped goods ready for the dyebath.

Special Notes On Dye Bath

Plant runs have shown it is best to first select the colors both direct, acid and acetate that exhaust at pH of 7.00.

This pH for the dyebath enables the dyer to control the shade and exhaust rate of the direct colors better on both rayon and aralac, as many of the best dyeing direct colors dye very nicely when the bath is slightly acid in preference to the alkaline bath.

The direct colors in a 7.00 pH bath will usually come off the viscose rayon and go on the aralac, and this also helps hold the shade better on rinsing and finishing off. On the dyeing of union or solid shades on spun rayon-aralac goods, it is best to leave the aralac shade on the light side of the rayon as these appear to further ageing or chemical change during finishing that make the aralac shade appear heavier finished than when fast dyed.

Dyebaths should not go over 7.50 pH or the dyeing temperature over 165°-170° F., or the aralac will dust off on the finished goods. The dyeing periods should be kept to the minimum as an extra long dyeing period will cause aralac fiber to dust on the finished goods.

The reworking or stripping of dyed aralac goods that have been run too long in the dyebath is quite difficult, as the aralac fiber swells and takes up excessive amount of color, thus causing trouble on the finished goods as well as when it is necessary to strip off a shade when it is too heavy.

Spun rayon-aralac goods are best finished on regular procedure by drying and framing and giving a light cold calendering for the desired hand.

The finishing for goods containing aralac should be kept on neutral or slightly acid, never alkaline, side. An economical and satisfactory finishing 100-gallon formula is:

8 lbs. Arnold, Hoffman gum trag.

8 ozs. special sulfonated olive oil.

Run on quetsch, dry and frame, ready for calendering to secure desired hand.

A list of colors satisfactory for processing ara-lac-spun rayon goods includes:

Fastusol Yellow LRA
Amanil Fast Red 8BL
Amanil Fast Blue 4GL
Amanil Fast Blue FFB
Solo Phenyl Blue Green BL
Formanil Navy G
Pontamine Fast Orange EGL
Amanil Sky Blue FF Ex.
Pontamine Sky Blue 6B
Chlorantine Yellow NN

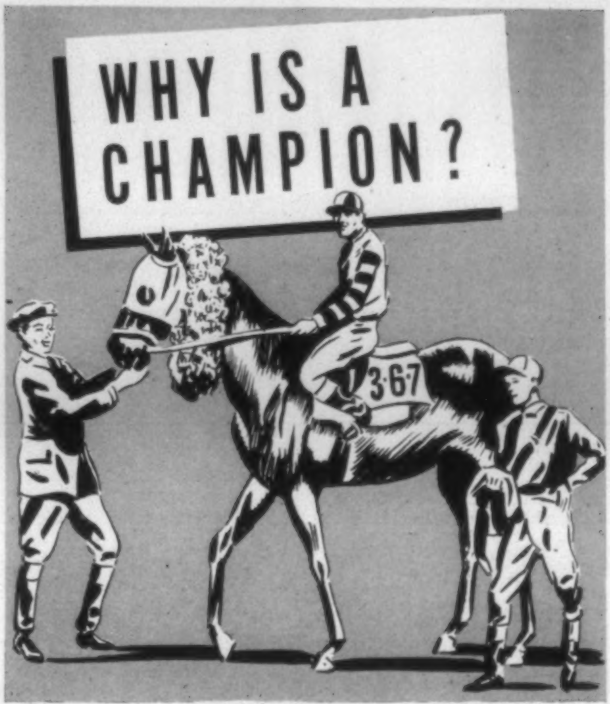
Acetate colors:

Cibacete Blue BG
Amacel Brilliant Blue B
SRA Red VIII
SRA Red 2B
SRA Scarlet III
Cibacete Orange 2R
Amacel Orange GR

Synthetic detergents—wetting agents (resistant type):

Levelene	American Aniline
Syntex	Colgate-Palmolive Peet
Santomerse	Montsanto Chemical
Triton W-30	Rohm & Haas
Decerosol	American Cyanamid
Nacconal	National Aniline
Igepon T Gel	General Dyestuff

Fancy Persian oval and oblong rugs formerly made of all-wool are now being produced of selected quality domestic cotton. Shortage of materials and scarcity of labor has forced simplifiaction of patterns and more blending of fibers. Nearly 40 per cent of all former wool rugs are now produced with blended fibers—the proportion is increasing.



Champions are champions because they always have "more left for the straight-a-way" than their opponents.
Successful mill practice also requires that your supplier of card clothing products have "something in reserve," which means Ashworth with—

3 **FACTORIES** which assure an uninterrupted supply of card clothing. If one factory is temporarily disabled, another factory can "pinch hit" for it.

6 **REPAIR SHOPS** which facilitate convenient and prompt repairs and which again insure you against emergencies.

7 **DISTRIBUTING POINTS,** which speed up deliveries of those items we have in stock and facilitate personal contacts when you have card clothing problems.

Made by "pioneers in card clothing" Ashworth Products also have quality to spare and are backed by a service which is unique. Ask us about Ashworth Surveys.

ASHWORTH BROTHERS, INC.
WOOLEN DIV. AMERICAN CARD CLOTHING CO.

Fall River *†‡ Worcester *‡ Philadelphia *†‡ Charlotte †‡
Greenville †‡ Atlanta †‡ Dallas †‡ (Textile Supply Co.)

*Factory †Repair Shop ‡Distributing Point

ASHWORTH
PIONEERS IN
CARD CLOTHING

PRODUCTS SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed.

Cotton Goods Market

NEW YORK.—Recent activity in Worth Street has been little different from that of the preceding few months. Some deals have been arranged quietly, but the quantities involved are negligible. Priority contracts have been negotiated in most cases, but in a few instances regular uses were allotted small amounts of cloth.

Extension of the period for selling unlisted fine combed goods to June 24, at the ceiling prices that prevailed prior to January 6, has been about the only development of interest in the critical supply situation.

The usual small weekly amounts of standard lawns and voiles have been released, with customers of long standing only being the recipients of these handouts.

Greater interest was shown in the likelihood of OPA announcing prices on a number of fine goods constructions, with the impression held that some styles which are below profitable selling levels are likely to be adjusted before long. However, this hope has been harbored for many months, and in a few centers it was skeptically passed off with the admonition, when it happens it will be believed.

A solution to the situation in the wage negotiations in the coal industry is keenly awaited in some sections of the cotton textile trade, as having a material bearing on the future of the labor situation in many other industries. If the grants of the coal union are satisfied and labor's demands met to a large extent by the nine operators, the feeling is held that similar requests will be cropping up in other trades, with the textile industry likely to be confronted with the same difficulty. This is mentioned as another of the many causes that tend to cloud the cotton textile picture with respect to future selling, and the outcome of the current negotiations between the coal workers union and the operators is being eagerly awaited and the progress from day to day closely followed.

Labor costs in textile plants are at the highest they have ever been, it is said, and in many instances have caused mills to discontinue operations in the night and third shifts because of the premiums that are paid to workers on these shifts. The labor costs for these shifts are prohibitive for profitable operations by many mills, it is pointed out. Should the prevailing wage scales be forced upward it would work a severe hardship on many mills which are barely managing to run at a small profit right now, as well as with units that are operating at a larger markup. The implications in paying higher wages to operatives in the cotton textile mills would mean a necessity to revise ceiling prices upward all along the line, it is said.

With the possibility of such an eventuality, should wage rates go up in different industries, trade factors suggest that it is better to pursue a safe course and sell for nearby periods than gamble in accepting contracts for late delivery, only to find costs have jumped up considerably later on.

The movement of goods in the Worth Street market has been at about the lowest rate that has been observed in a good while, with hardly any trend even faintly evident in the various sections of the trade. Here and there some special lots have been turned over, but the bulk of the demand goes begging and is left unfilled. Priority orders are proffered to practically every seller, but acceptances are rare.

SELLING AGENTS
FOR SOUTHERN COTTON GOODS

CURRAN & BARRY
320 BROADWAY
NEW YORK, N. Y.

WELLINGTON SEARS CO.
65 WORTH STREET NEW YORK
Representing 18 mills—merchandising 25,000 fabrics
Industrial Fabrics—Garment Fabrics
Towels and Toweling—Drapery and Upholstery
Fine Cottons—Rayon
BRANCHES
Boston, Atlanta, St. Louis, San Francisco
Philadelphia, Chicago, New Orleans, Los Angeles

Domestic Export
Merchandising
Joshua L. Baily & Company
40 WORTH STREET NEW YORK

NEISLER MILLS CO., Inc.
Selling Agents
66-68 WORTH STREET, NEW YORK

J. P. STEVENS & CO., Inc.
fabrics for diversified uses
1410 BROADWAY 44 LEONARD STREET
EMPIRE STATE BUILDING
NEW YORK

Cotton Yarns Market

PHILADELPHIA.—Reports in the market indicate that the scarce yarn situation has become worse during the current month, and that no immediate prospects of it getting any better are seen. The outlook in strictly civilian yarns is very dark, since there is not enough to take care of military and the so-called morale-maintaining orders at the same time.

With the end of the present fiscal year (June 30) of Government buying of materials and supplies for the war effort in sight, it is presumed there will be a seasonal lull in the release of new requisitions for textiles and related goods requiring cotton yarns. Ordinarily, civilian consumers of sale yarns have regarded any relatively quiet interval of this sort as a rare opportunity to cover as far ahead as they could.

In the present case, it is reported, most civilian customers are not covered ahead beyond 30 to 60 days and, presumably, a good many sale yarn spinners still have some production open for the four to six weeks prior to Labor Day.

Cotton yarn enters into the manufacture of numerous military items of cloth, clothing, etc., of which the supply recently has been stated by Government procurement agencies to be "critical." The industry has been put on notice officially that, in order to conserve these critical items, the Government now reserves the right to make disposition of every pound of yarn purchased under a preference rating or a WPB directive, and of every yard of goods and every garment produced on a Government contract.

Up to now, a considerable part of the "seconds" and "rejects" remaining in possession of the Government suppliers could readily be sold to civilian customers. The Government now makes a claim on such production, which it offers to purchase at such a sub-standard price as may be determined to be reasonable and equitable under Government regulations governing the purchase of sub-standard items.

If they can get off greater production of carded and combed cotton sale yarns, market interests are said to be hopeful that, through a readjustment of civilian yarn supplies next month and later, they can help keep a number of manufacturing concerns alive, which recently were near the end of their stocks and apparently were not able to get replacement orders accepted.

It is pointed out, however, that ability of the industry to enlarge its production depends largely on how soon the yarn mills, through the medium of restored overtime operations, can once again make the utmost use of their depleted personnel. Restored overtime pay depends, in turn, on a better margin for spinners, in the OPA price ceilings.

The crux of the yarn supply situation is production, which has been discouraged by too-rigid Government regulation. In the industry it is believed June production of carded sale yarn may run at least one-third below the 1942 monthly average, and of combed yarn at least one-eighth below.

Many persons in the market were glad to hear the recent assurance given by a War Production Board representative that WPB is prepared to assist as much as possible in increasing the production of cotton yarn and fabrics.

Today... **MORE**

PENN-TAN LEATHER

IS SOLD THAN ANY OTHER

TRADE-MARKED HAIRLESS

CHECK STRAP LEATHER

This simple fact is the most convincing evidence of superior quality which could be offered to any user of check straps.

Contributing to this outstanding position of leadership are two important factors:

First—Only the very finest and heaviest hides are used for PENN-TAN.

Second — Continuous research, over a period of years, has steadily improved the tanning and currying of PENN-TAN.

Why not give PENN-TAN a trial on your next order for check straps? If your regular supplier cannot furnish PENN-TAN, write to us for the name of one who can.

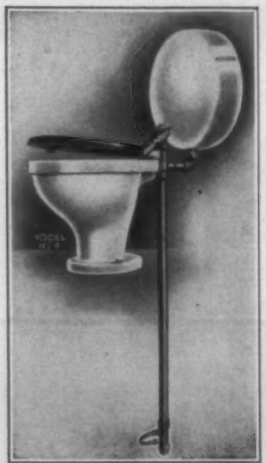
Shingle & Gibb Leather Co.

PHILADELPHIA

Time and Money Saving Equipment

ENGINEERING SALES COMPANY
S.R. & V.G. BROOKSHIRE
TEL-5026 CHARLOTTE, N.C.
WE SELL NOTHING BUT GUARANTEED EQUIPMENT
Charlotte, N. C.
Greenville, S. C.

For All Plants
LARGE OR SMALL



VOGEL NUMBER 4—Vitreous china bowl with top supply, painted white enameled drum type pressure tank, reinforced hardwood seat, union ell flush connection, lead waste connection, supply and flush valves assembled with 3 ft. 2 in. genuine wrought iron valve rod and casing.

This fixture can be furnished with Vacuum Breaker and Ball Check Waste.

Regardless of the size of your plant, Toilet Rooms which require constant repair and time out for adjustment, will rob you of valuable man-hours and may constitute a menace to the health of your employees.

Vogel Products are proving their ability to withstand the use and abuse of today's 24-hour working schedule. In textile mills, shipyards, chemical and high explosive plants, steel mills and many other places throughout the Nation, Vogel Products are meeting all the requirements of our all-out War Effort.

JOSEPH A. VOGEL COMPANY
WILMINGTON, DELAWARE

Continuous Process Impregnates Tire Cord With Latex

One of America's leading tire manufacturers is now impregnating rayon tire cord with latex rubber solution at high speeds on a continuous process machine.

The installation uses the padding technique of immersion in latex, squeezing between rollers and drying on cans, taking care that the solution is so adjusted to the pick-up that the proper amount of latex impregnates the rayon cord.

The range begins with the feeding of the rayon cord into a two-roll micro-set padder. After the squeeze under 4,000 pounds pressure, the cord passes through a heated flue built in the shape of an inverted "U." This pre-drying speeds up the whole process.

Next the cord passes over a series of 22 steam-heated drying cans, arranged horizontally, and is wound onto a slip belt winder at the end of the range.

It takes 40 per cent less time to impregnate the rayon cord with latex in the continuous process range than the best speeds formerly attained.

All of the rayon cord being impregnated on this continuous process range is used for military purposes, particularly aircraft tires where rayon saves approximately four pounds of rubber per tire, runs cooler and withstands the shock of high-speed landings.

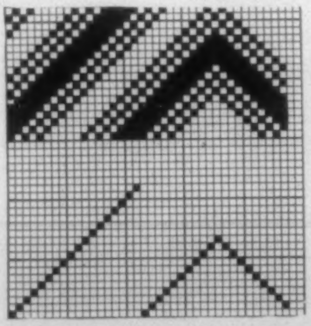
The impregnating range was designed and built by H. W. Butterworth & Sons Co. based on the firm's experience with finishing ranges in the textile industry.

Practical Textile Designing

(*Continued from Page 24*)

ric by using a straight drawing-in draft and making the pattern by the chain.

Fig. 186 illustrates two repeats of a wave twill design constructed from the $\frac{3\quad 1}{3\quad 1}$ twill weave. This design will be made on eight harness shafts as will be seen. One repeat of the pattern will be the chain plan. Fig. 187 illustrates a cotton dress fabric using the $\frac{5\quad 1\quad 1\quad 1\quad 1}{1\quad 1\quad 5\quad 1\quad 1}$ twill as a wave design with design and drawing-in draft at Fig. 188.



188

(*To be continued*)

Georgia Operating Executives Conclude "Meeting By Mail"

In normal times the Textile Operating Executives of Georgia, composed of the superintendents and department heads of the cotton-textile mills in Georgia, hold two general meetings a year—one in the spring covering discussion of carding and spinning topics; and one in the fall dealing with problems related to slashing and weaving. This schedule has been followed consistently since the formation of the organization in 1922.

Due to the wartime emergency as to transportation, etc., the officers and executive committee, after a vote of the membership, followed the majority opinion that it would be wise to call off the meeting on carding and spinning that normally would have been held this year, and instituted for it a "meeting by mail," whereby the questions on carding and spinning that would have been discussed at the spring meeting were submitted to the Georgia mills for reply by mail.

Twenty Georgia mills responded with detailed answers to all or part of this questionnaire, which contained ten practical questions on carding and ten on spinning.

J. H. Daughdrill, vice-president in charge of manufacturing, Callaway Mills, LaGrange, Ga., is general chairman of the association, and he designated a committee to compile the answers to these questions received from the 20 mills, and this report will be distributed this month to the membership. Others interested in securing copies may get them from Robert W. Philip, secretary, 1020 Grant Building, Atlanta-3, Georgia.

The committee that compiled the report from the mills' answers consisted of George E. Glenn, Jr., president and general manager, Exposition Cotton Mills Co., Atlanta, and E. H. Rogers, agent, Fulton Bag and Cotton Mills, Atlanta, both past general chairmen of the organization—and the secretary.

The term of Floyd B. Watson, superintendent, Griffin Mill Division of Thomaston Cotton Mills, on the association's executive committee, was to expire with the spring 1943 meeting. Under the emergency conditions, since no meeting at which a successor could be elected would be held, the executive board continued Mr. Watson in office on the executive committee for another six-month term.

The complete list of officers of the association follows:

J. H. Daughdrill, vice-president of Callaway Mills, LaGrange, general chairman; Julian M. Longley, general manager of American Thread Co., Dalton, vice-general chairman; Robert W. Philip, editor of *Cotton,* Atlanta, secretary-treasurer—and the following seven members of the executive committee:

Floyd B. Watson; S. A. T. Newsom, superintendent of the Unity Plant, Callaway Mills, LaGrange; James O. Cobb, superintendent of LaFayette Cotton Mills; T. E. Raht, vice-president and superintendent of Swift Spinning Mills, Columbus; S. W. Hempstead, general manager of the Martha Mills Division, B. F. Goodrich Co., Thomaston; J. W. O'Neal, superintendent of Gainesville Cotton Mills; and Lawrence R. Brumby, general superintendent of Bibb Mfg. Co., Macon.

Cotton provides more clothes and cloth for mankind than all the world's other textiles put together.

WILLIAM R. NOONE & CO.

A. ERLAND GOYETTE, President
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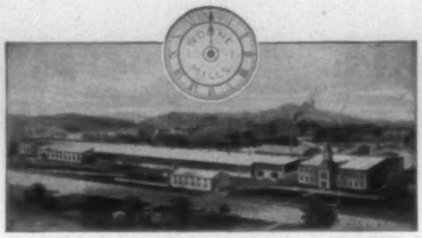
105 Washington St. Boston, Massachusetts



Established 1831

NOONE'S

Standard Slasher Cloths

Ask for NOONE'S SLASHER CLOTHS by name or style number.

Long experience in manufacturing Slasher Cloths and continuous experimenting have enabled us to produce several types of Slasher Cloth, each especially constructed to give best results on the particular kind of yarn to be sized.

The proper Slasher Cloth for each type of yarn means properly sized warps, less loom stops, easier weaving, more and better production, and lower cost. We can supply you the right cloth for your particular work. On request, we will have our representative call and discuss Slasher Cloths with you.

We are the oldest manufacturers of Slasher Cloth in America. Our experience enables us to build a Slasher Cloth that will meet your most particular demand. Use NOONE'S SLASHER CLOTHS and be convinced.

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NOONE'S ROLLER CLOTHS
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PENICK & FORD, LTD.,
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CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
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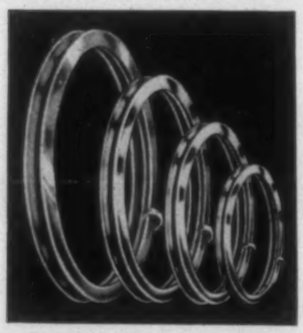
John:
Let's order new Douglas Spunray Gums for warp sizing spun rayons, spun acetates and mixtures.
Understand protect yarns like standard starches yet desize completely in soap and water.
Jim



RAGAN
SPINNING
RINGS

These Four Features Mean
Greater Spindle Efficiency

- Smoother finish, greater resistance to dry abrasive wear, due to improved patented process of case-hardening.
- Angled top for easier starting (eliminates the beginning drag of inside traveler point).
- Angled side-wall—eliminates outside point drag, or backtracking; prevents chatter; produces better face on yarn.
- Reversible and non-reversible standard flange numbers.

Ask for the Whole Story and Samples

RAGAN RING COMPANY
Box 174, Station A . . . Atlanta, Georgia

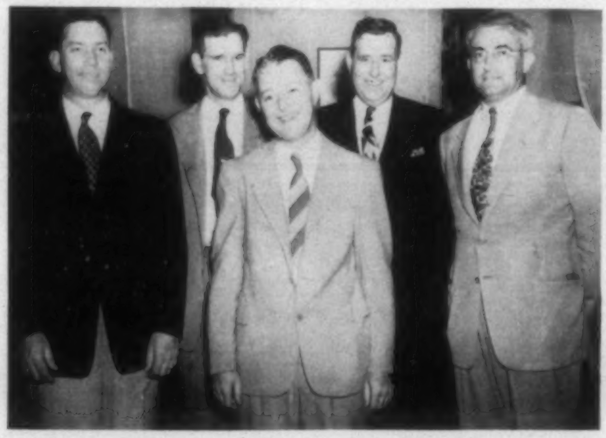
Informative Talks Presented At A. A. T. C. C. Piedmont Section Meeting

The summer gathering of the American Association of Textile Chemists and Colorists, Piedmont Section, was held Saturday, June 5, at Winston-Salem, N. C.

Lieut.-Col. Frank M. Steadman of the Philadelphia Quartermaster Depot, Captain Kelly Traynham of the Charlotte Quartermaster Depot, Fred T. Simons of the Philadelphia Quartermaster Depot and other representatives of the Quartermaster Corps were present for the morning session, which was sponsored by Jack L. Crist, Southern Dyestuff Co., Charlotte, N. C., one of the chief makers of sulfur colors in this country. Valuable discussions were held as to methods for determining the economical value of sulfur dyed yarn and fabric for military uses. Special discussions were held as to the merit of sulfur dyed goods to be used for fabrics not exposed to weathering, but the general opinion was that sulfur dyed goods were not the most economical to be used for outer garments and clothing or for goods requiring great resistance to weatherings.

The afternoon session was grouped under three types of dyeing and finishing work, those being synthetic fabrics, cotton goods and hosiery yarns.

E. R. Hopkins of Stonecutter Mills, Spindale, N. C., gave a very instructive paper on the preparation and dyeing of nylon and viscose and acetate rayon piece goods. Mr. Hopkins stressed the great importance of proper preparation of these goods prior to dyeing and finishing. The careful selection of dyeing assistants and dyestuffs was noted as well as the final important step in the application of finishing agents to the synthetic fabrics whereby they give a desirable hand and drape for the present maker.



Officers present at the recent A. A. T. C. C. Piedmont Section meeting were, left to right, L. G. Atkins, Southern Dyestuff Co., Charlotte, secretary; Henry Dixon, May McEwen Kaiser Co., Burlington, N. C., vice-chairman; R. Norris Rabold, Union Bleachery, Greenville, S. C., chairman; Henry Gaede, Laurel Soap Co., Charlotte, councilor; and Wyss Barker, National Aniline, Charlotte, treasurer.

McGhee Calhoun of Erwin Mills, Cooleemee, N. C., gave an instructive talk on the preparation, dyeing and finishing of cotton twills and similar fabrics. This construction constitutes a large portion of the Army's requirements and was a very interesting talk.

The meetings were well attended. W. M. McLaurine, secretary of the American Cotton Manufacturers Association, Charlotte, gave an impressive talk on the trends of government in the present and post-war outlook.

Campaigning for Scrap Reduces Accident Hazards

A worker in a war plant cut his leg to the bone on the jagged edge of a piece of scrap metal. The cut became infected, and the worker was kept away from his war job for several weeks. The production line missed him.

This wouldn't have happened if the scrap material in that plant had been assembled in a safe, enclosed place and turned in as scrap metal for conversion to war material, according to the National Safety Council.

Digging out scrap and turning it in for use in the war effort constitutes a two-way offensive against the enemy. All individuals, firms and organizations that collect and contribute their scrap are pushing a main column into enemy territory by providing material for planes, tanks, guns, ammunition and other war necessities. But they are doing even more than that. They are sending a flanking force against the enemy by striking at accidents here at home—accidents that delay production and postpone victory.

Scrap and rubbish left lying around haphazardly cause many accidents. There is no way of knowing just how much is still lying around—like enemy snipers waiting to pick off a worker—in attics, basements and yards of American homes; in stores, warehouses, machine shops and factories; on the farms and on dumping lots. But however much there is, and wherever it is, this scrap is commiting a double wartime crime—dodging use in war industry, and threatening injury or even death to the nation's home front workers.

In 1942, our first full year of the war, 93,000 persons were killed and 9,000,000 injured by accidents in the United States. The total estimated cost of these accidents was close to four billion dollars. It is hardly necessary to point out the tragic consequences of this staggering toll. But it should be kept in mind that accidents in these times also constitute a very real menace to our all-out victory effort by keeping much-needed workers off the job, and by preventing the civilian population from doing its total best.

Accidents occur chiefly in homes, in traffic, on farms and in industrial plants. In all these categories, except traffic, trash and miscellaneous articles left lying around constitute a major hazard. They cause many falls, and falls are one of the greatest causes of accidents. Moreover, serious cuts and puncture wounds and infections can be received by stepping on old wire, pieces of broken metal and other objects with sharp corners or jagged edges.

Such falls and wounds are the result of poor housekeeping—at home, on farms, in business places and in industrial plants. The last named category is especially important now for obvious wartime reasons. Many factories and shops are safety conscious. Others are not so careful.

The National Safety Council long has included industrial housekeeping in its program for national safety. And the council adds its voice to the call for all scrap metal to be turned in for use in war industry. By gathering up all the scrap from our homes and farms and industrial establishments, we not only help keep war material flowing to the battlefronts, but we also help to reduce accidents on the home front and thus save manpower for warpower.

IN THE BATTLE OF WAR PRODUCTION IS BEING SPEEDED BY

KENTEX
TRADE-MARK REG.
APRON

Victory or defeat does not rest alone with our fighting men at the front. It depends equally as much on American industry and workers, who must supply them the munitions and equipment they need to win.

In the textile industry's vital contribution to war production, KENTEX aprons are doing their part by keeping long draft spinning and card-room machinery working full time, with less time out for replacements.

•

TEXTILE APRON COMPANY
EAST POINT, GEORGIA
J. B. KENNINGTON, OWNER

ROY
CARD GRINDERS

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Card Grinding Hints:

Oil and emery make a very poor bearing surface. Card Grinders kept clean and free of this combination will wear a lot longer while giving better results in every way.

Changing the felt cleaners and oilers on Card Grinder Traverse Wheels every month greatly insures much less wear to wheel and shell.

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B·S·ROY & SON COMPANY
WORCESTER · MASS ·
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LICKERIN BELTS RECEIVE

PUNISHING TREATMENT!

The life of these belts depends largely on keeping them clear of the inner flange of the lickerin pulley.

By reversing the belt cross, this can be accomplished on Whitin Cards. Cards with the pulleys crowned usually run true.

The life of your belts will be substantially prolonged if you will follow the above suggestion.

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GLOBE WOVEN BELTING CO.
1396-1398 Clinton St. Buffalo, N. Y.

Southern Sales Representative
WILLIAM A. PRINCE, HENDERSONVILLE, N. C.

Record of Shelbyville Mills Praised At "E" Event

The Shelbyville (Tenn.) Mills plant of United States Rubber Co. took its place June 2 among the truly great industrial enterprises of the nation, when it received the Army-Navy "E" pennant from the hands of official representatives of the War and Navy Departments. This pennant and the pins which were given to all employees in service at the time of the certification of the award were presented for excellence in the weaving of cotton duck now going into some of the most essential military equipment on all the fighting fronts.

Governor Prentice Cooper was chairman of the celebration, which was held on the plant grounds from 2:15 o'clock in the afternoon to 2:45 o'clock. Brig.-Gen. W. A. Danielson, commanding general of the Army Service Forces at Memphis and acting for Under Secretary of War Robert P. Patterson, presented the "E" pennant. Harry E. Humphreys, vice-president of United States Rubber Co., accepted the flag on behalf of the employees and the management.

Lieut.-Comdr. E. E. Keith, officer in charge of the U. S. Navy recruiting station at Nashville, read an order from the Navy Department commending the plant for its industrial efficiency. The "E" badges of honor which every eligible employee is now privileged to wear were pinned by Lieutenant William L. Hennessey, a wounded veteran of the Solomon Islands campaigns.

Speech of Acceptance

The ceremonies were a tribute to the efficiency of the workers, as the speakers pointed out in their brief addresses. In accepting the "E" pennant, Mr. Humphreys declared that United States Rubber Co. is one fighting force in the great army of industry. "It," he added, "is a task force in the battle of production. Shelbyville Mills are a unit of that force whose efficiency is based upon the logistics, the integration and the direction of our whole operation. In accepting this bond between us, with all the meaning and responsibility it implies, on behalf of the people of Shelbyville in particular, and through them of our company—I pledge you representatives of our Army and Navy that we shall keep the faith."

Governor Cooper, Army and Navy officers, visiting rubber company officials and managers of other plants were escorted on an inspection tour of the mill by local employees. Then promptly at 2 o'clock the factory whistle blew and the workers filed out to take their places among the gathering crowd. The Governor introduced General Danielson, who presented the flag, and he was followed by Mr. Humphreys' acceptance. Two employees, Arthur Davis, chairman of the Employees Council, and Lee A. Foster, chairman of the Employees Safety Council, unfurled the banner, and a color guard raised the pennant. The emblems were accepted by H. Gordon Smith, manager of the Textile Division of U. S. Rubber Co.

After H. Gordon Smith, manager of the Textile Division of U. S. Rubber Co., had accepted the emblems, A. B. Alexander, Jr., stepped forward and told of the pride of the management and employees that they had merited such a high award for industrial efficiency. Two women representatives of the employees, Mrs. Annie Holmes and Mrs. Helen Hutton, were the next recipients of pins from Lieutenant Hennessey.

Shelbyville Mills plant was first established as a grist mill for the grinding of grains back in 1852, when a firm by the name of Gillen Webb & Co. opened a mill on the present site. Little is known of the early history, but it is generally believed that it played a prominent part in feeding the populace of this section of Tennessee in the early days of the War Between the States. The next development jumps to 1877 when it was re-established as a grist mill. Three years later, the site was absorbed by Sylvan Mills for the manufacture of cotton goods as well as the grinding of grains. This plant was destroyed by fire in 1881, only to be rebuilt in 1883. That mill stands today as part of the present cotton warehouses. In 1901, reorganized under the name of Sylvan Cotton Mills, the plant separated itself forever from the grinding of the grain, which had been one of its chief sources of income for nearly a half a century.

Shelbyville Mills' real progress, however, did not develop until United States Rubber Co. bought the plant in December, 1933. The factory had been shut by the depression of the early 1930's. The rubber company management took over the mill, installed machinery for the weaving and twisting of tire cord and the little plant began producing on such a large scale that new buildings were added and more employees hired.

War Conversion

When the Japanese attacked Pearl Harbor, this plant was busy with manufacturing of tire cord, but four days later the Government suspended the making of automobile tires and the mill was without a customer. The management and employees demonstrated their resourcefulness although against heavy odds and converted the building speedily to the weaving of duck for war essentials. Old looms, long discarded, were found and repaired although difficulties were encountered in getting the necessary parts and the new ones purchased. These were quickly installed and the same force was then a part of the war production effort.

The number of employees had to be increased since more workers are required to turn out a greater poundage of woven material than for tire cord. Nearly all of this increase in employment was in the nature of unskilled and inexperienced help and this necessitated a rapid comprehensive training program. Shelbyville Mills plant has been operating 24 hours a day, seven days a week, since February, 1942, or about two months after the declaration of war.

War Shipping Practices Revealed

How parcels for American war prisoners, heavy electrodes for Russia, plywood for Britain, food for the Allies, firebrick for Canada, surgical dressings for the U. S. Army and a number of other war items are protected for safe delivery is interestingly illustrated in the current issue of *Acme Process News*, No. 12. This 12-page house organ by the manufacturer of Acme Steelstrap should be helpful to every shipper whose products are transported to the fighting and production fronts. It may be secured from Acme Steel Co., 603 Stewart Ave., S.W., Atlanta, Ga.

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Type H Motor Starter Announced

The Type H motor starter, a new addition to its industrial control line built especially to withstand most severe wartime operating conditions, was announced recently by the Allis-Chalmers Mfg. Co., Milwaukee, Wis. Designed for low first cost, the new starter is a metal-enclosed structure similar to metal-clad switchgear. High interrupting capacity disconnecting-type fuses are utilized in combination with a heavy duty oil switch in the new starter.

Type H starters have been developed for both induction and synchronous-type motors rated up to 1,000 h.p. at 2,300 volts and 1,750 h.p. at 4,600 volts, 3-phase, 60 or 50 cycles. Their usages cover: full or reduced voltage starting, dynamic braking, reversing and special applications.

Short circuit protection up to 160,000 k.v.a. at 2,300 volts and 320,000 k.v.a. at 4,600 volts eliminates the need for a back-up breaker within these k.v.a. ratings. Disconnecting type fuses combining high interrupting capacity with fast-clear action hold short circuit currents to safe values which do not damage the control. Fuses operate only under actual short circuit conditions and will not blow unnecessarily.

The new Type H starters protect motors from sustained overloads, locked rotor condition, single phasing and overloading caused by too frequent starting by means of termal overload relay accurately calibrated.

Bed Ticking Group To Advise WPB

Nine mill executives were named to the War Production Board's recently-formulated Bed Ticking Industry Advisory Committee. George E. Ward is the Government presiding officer.

Committee members are: Gordon A. Berkstresser of Roanoke Mills Co., Roanoke Rapids, N. C.; C. W. Carpenter of Conestogo Cotton Mills, Inc., Lancaster, Pa.; Hugh Comer of Avondale Mills, Sylacauga, Ala.; J. H. Cutter of Cutter Mfg. Co., Rock Hill, S. C.; G. Ellsworth Huggins of Martel Mills Corp., Lexington, S. C.; Sigmund Odenheimer of Lane Cotton Mills, New Orleans, La.; Paul A. Redmond of Alabama Mills, Birmingham; George P. Swift of Muscogee Mfg. Co., Columbus, Ga.; and F. A. Townsend of Graniteville (S. C.) Co.

Hand Tools for the Weave Room

(*Continued from Page 18*)

the majority of bolts on the loom frame and various motions. Some fixers have an aversion for these handy wrenches, but once used, a fixer would soon be lost without such a wrench after acquiring the feel of it. If a fixer refrains from using this wrench as a hammer, the 10-inch is preferred. An added size, the six-inch, comes in handy occasionally.

A few special wrenches are required on dobby looms, such as the jack-back combination straightener. This dobby wrench can be secured from loom builders or loom specialty supply firms. It may be necessary to grind off the shoulder on both ends to fit the dobby backs and hooks. Another necessary wrench is the dobby peg wrench for the purpose of placing or removing pegs in the pattern chain.

(*To be continued*)

Rayon Fellowship Is Established By American Viscose

A rayon fellowship at the Ellen H. Richards Institute, Pennsylvania State College, to study the durability and care of rayon fabrics, has been made possible by a grant-in-aid from American Viscose Corp.

The objectives of the fellowship are these:

(1) To find how a large number of types of wearing apparel fabrics, principally rayon, perform during wear;

(2) To ascertain to what extent the present laboratory tests will predict the performance of the fabrics during actual wear;

(3 To evaluate wear results against a graded series of accelerated laboratory tests, in order to find how the latter can be speeded up in order that they more nearly simulate conditions of use; and

(4) To study methods of care, including laundering and dry cleaning, in order to obtain information which will enable the consumer to obtain the maximum of durability from wearing apparel fabrics.

In carrying out the first objectives of the fellowship, selected consumers—men, women and children—will wear garments under direction so that wearing records will be as accurate as possible. The same type of fabrics and garments will be subjected to the current methods of laboratory test, in order to compare the laboratory and wear results.

Since it has already been shown by reports from the Ellen H. Richards Institute that many existing tests for wearing apparel textile fabrics fail to produce as severe results as are obtained from ordinary consumer wear, a graded series of accelerated tests, such as the application of light, abrasion, atmospheric gases and perspiration—alone and in combination with each other, as well as accelerated laundry and dry cleaning tests, are projected under the second objective of the fellowship.

The purpose in this part of the study will be to find what modifications of existing textile testing methods, or what new methods will predict with fair accuracy what will actually happen to a fabric during the ordinary course of wear—and do this within a sufficiently short time to be practicable from the point of view of the textile testing laboratory.

The fourth objective of the study is self-evident. Unless a consumer is given full and accurate information on what may be expected of a fabric, or how it should be cared for, the durability of and consumer satisfaction in a fabric will be greatly reduced.

Reeves Pulley Office Is Moved

The Atlanta, Ga., office of Reeves Pulley Co. has been moved from the Volunteer Building to Room 308, Bona Allen Building, in order to expand facilities for serving the Southern territory. H. C. Garner is in charge of the Atlanta office.

Colorfully designed cotton handkerchiefs are being featured as accents for dark dresses and suits, especially in lapel spots.

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WPB Clears Up Priority System In Textiles, Leather and Clothing

The War Production Board has clarified the entire priority pattern for the textile, clothing and leather industries in a far-reaching action intended to restrict the use of preference ratings for distribution of textile and leather products to the most essential purpose and to eliminate their use for all other purposes.

With certain clearly defined exceptions, all outstanding ratings for the procurement of textile and leather products and raw materials were cancelled. Henceforth, the only ratings which will be valid are:

1. Those assigned for procurement of items for ultimate delivery to the Army and Navy, Martime Commission and the War Shipping Administration. These consist very largely of AA-1, AA-2X and AA-3 ratings.

2. Those certified on orders from post exchanges and ships' service stores.

3. Those assigned by M, P or L orders specifically exempted from the cancellation of ratings. These orders are: M-73, which assigns an A-10 rating for certain wool products; M-158, covering exports under licenses issued by B. E. W. M-166, which assigns an A-2 rating for specified fabrics for flags; M-298, which assigns an A-2 rating for specified fabrics and materials for blankets; P-131, which assigns an A-1-i rating for specified fabrics and materials for officers' uniforms; P-116, which assigns an A-1-j rating to the Defense Supplies Corp. for procurement of osnaburgs; M-107, which assigns an A-2 rating for specific cotton textiles for agricultural bags; M-134, which assigns an A-2 rating for specific fabrics for industrial cloth, tape, surgical dressings, etc.; M-207, which assigns an A-2 rating to specific cotton textiles for work apparel and hospital clothing; M-218, which assigns an A-2 rating to specific cotton textiles for agricultural and food processing uses; and L-282, which assigns an A-2 rating to specified yarns and twine for fish netting.

4. Those assigned by WPB to a specified applicant on a form describing in detail the item, type and quantity of material which may be purchased with the rating. Authorizations issued prior to today fulfilling these requirements are still valid.

The order (M-328) cancels all other ratings now assigned or authorized if they have not yet been applied for procurement of specific items.

The move will have several significant and immediate results. It puts military and certain essential civilian claimants for textile and leather products at the top of the priority list, and permits the operation of a free market in procurement of those products for all other purposes. As a result, once producers and distributors have met the most essential demands, they are given the opportunity of distributing their output and stocks to all other purchasers.

Closely related to this is elimination of the confusion and unbalance which have developed in the market through the effects of allowing unco-ordinated and uncontrolled assignment and extension of ratings for textile and leather items.

Finally, the move puts an effective clamp on the mis-use of existing WPB orders and regulations either through misinterpretation of their provisions or failure to obtain a clear understanding of restrictions surrounding their use.

By "wiping the slate clean," producers and distributors are able to re-establish their present distribution of textile and leather products on a sounder basis and to provide all purchasers with an opportunity of getting their just share of available goods once specifically defined requirements have been satisfied for maintenance of the war economy.

The order requires that when specific permission is requested from the WPB for a rating, complete information as to what the fabric or leather product is to be used for must be provided, including such facts as the name of the person to whom the rating is assigned and the yardage, type, construction of fabric, quantity of fabric, etc., which are to be procured.

Any application or extension of a rating assigned individually by the WPB must be certified on the purchase order as having been used pursuant to Order M-328. Likewise, where the rating is assigned through one of the exempted P or M orders, a certification to this effect must be placed on the purchase order. However, such endorsement is not necessary if a specified certification is called for by the particular order involved.

Canvas Orders Go Unfilled

Manufacturers of canvas products have been able to fulfill military and essential civilian requirements, it was reported at the first meeting of the Canvas Products Industry Advisory Committee of the War Production Board, held in Washington recently.

The industry is composed of 3,000 manufacturers of tents, awnings, tarpaulins and small canvas products.

The urgent demand for canvas products has required this industry to train thousands of new workers. Plants normally employing 50 to 100 workers now employ 500 to 700, and an estimated 70 per cent of plant equipment throughout the industry has been converted to production for military purposes.

The committee recommended simplification of specifications for tents in order to conserve materials and labor, and also discussed water and flame proof treatment of canvas or cotton duck, and supply requirements relating to sewing thread and machine parts.

Donald A. Campbell, chief of the canvas products section of the Textile, Clothing and Leather Division, was Government presiding officer at the meeting.

WPB Names Towel Advisory Committee

The War Production Board recently announced the formation of its Towel Industry Advisory Committee, with Thomas M. Bancroft as Government presiding officer.

Committee members include: John H. Cheatham of Dundee Mills, Griffin, Ga.; Julian C. Harmon of Cannon Mills Co., Kannapolis, N. C.; Luther H. Hodges of Marshall Field & Co., New York City; John F. Matheson of Mooresville (N. C.) Cotton Mills; Kendall Miller of May's Landing Water Power Co., Philadelphia, Pa.; H. L. Ransom of Niagara Textile Co., Lockport, N. Y.; F. R. Scott of Ward Davidson Co., Philadelphia, Pa.; Charles A. Sweet of West Point Mfg. Co., New York City; George P. Swift of Muscogee Mfg. Co., Columbus, Ga.; and R. D. Williams, Jr., of Callaway Mills, LaGrange, Ga.

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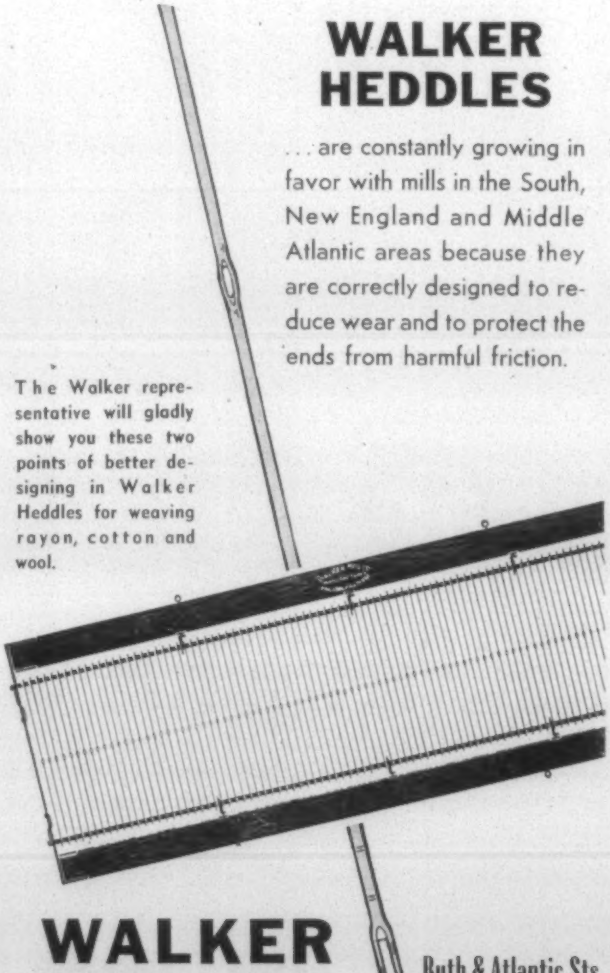

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Flax Bagging and Twine Perfected In Georgia Project

(*Continued from Page 14*)

tile than any other method of converting fiber into yarn.

This suggests that in the post-war future new types of fabric may be expected to appear and win public approval. They may not necessarily follow conventional and historic trends. Imaginative use of the coarse flax yarns and weaves created for emergency use as bagging may well figure in this post-war development. Linens in general become softer and more pleasing with use. The laundry "degums" the fabric. This might for example lead to public acceptance of an all-flax sheeting which would appear on the loom by present standards as too harsh, but which would provide the insulating and absorptive qualities of linen at a consumer cost no greater than a medium grade of cotton and which would become softer and softer with use.

The general characteristics of flax which make it interesting to the consumer are: a relatively high hygroscopicity, i.e., it absorbs and evaporates water readily; it is a good conductor of heat; it is resistant to heat; it has a cool feel; it is relatively strong; its elasticity is low; it does not soil easily and germs do not find it as hospitable as other fibers.

These same characteristics in general are found in the stapled, retted, decorticated and refined fibers produced in the engineering experiment station pilot plant as well as in the stapled, retted, decorticated, degummed and refined fibers. The major exception to this is some loss of yarn strength due to stapling before retting which increases the proportion of short fibers.

Summary

The more important generalizations which can be drawn from the six-year study are:

Seed flax appears to offer the more possibilities of farm profit than fiber flax because of much lower harvesting costs and higher seed yield.

The tank-retting and decorticating process appears to be the more desirable basis for the eventual establishment of a flax industry.

By segregating the long and short fibers on a French worsted comber it is possible to spin 100 per cent flax yarns of finer counts from the longer fibers on cotton machinery. While 5's (cotton count) are the finest thus far produced in the pilot plant this is not regarded as the limit. The short fibers from the segregation can be used in towelling in mixture with cotton. Fabrics of 75 per cent flax can be consistently spun up to 14's and 50 per cent flax has been spun as fine as 20's.

The chemical degumming process has definite possibilities, but thus far the cost of producing degummed fiber appears too high to create enough textile interest to justify attempting an agricultural development based on this process. It is believed that the mill experience derived from the retted-decorticated and refined fiber may ultimately lead to the solution of spinning fine yarns from this type of fiber.

In desert warfare cotton duck not only protects trucks from heat and flying sand but also covers gun muzzles and breech-block mechanisms. Temporary maintenance and repair houses for the "General Grants" and other mobile equipment are made of tightly woven cotton canvas.

First Quarter Cotton Fabric Production Surpasses 1942 Figure

Cotton fabric production during the first quarter of this year exceeded by 27,000,000 linear yards production during the first quarter of 1942, Thomas M. Bancroft, chief of the cotton branch, Textile, Clothing and Leather Division, WPB, told members of the Cotton Mill Industry Advisory Committee of the War Production Board at their meeting in Washington recently.

Output for the first three months of this year reached the record level of 2,857,000,000 linear yards of cotton fabric, Bancroft revealed, compared to 2,830,000,000 yards in the comparable period last year.

Bancroft also informed the committee of WPB actions taken pursuant to Order L-99 which provides the authority for issuance of directives controlling production and allocating output of certain cotton looms. These actions, all intended to supply pressing military and other requirements directly related to the war production program, are:

1. All looms operating on cotton canton flannel on April 3, 1943, must continue to operate on this material and are prohibited from being shifted to any other cotton textile. Eighty-five per cent of the output of these looms must be delivered to manufacturers of work gloves who have been faced with a serious shortage of the material.

2. Looms operating on denims and denim stripes on April 3, 1943, are prohibited from making any other cotton fabrics. Ninety per cent of this production must be delivered to garments cutters for manufacture of waistband overalls, dungarees, bib overalls, overall jumpers, or coat and work pants.

3. Looms operating on pillow cases have been ordered to convert for a temporary period to production of raincoat material urgently needed by the armed forces.

4. Steps have been taken to increase output of herringbone twill needed for manufacture of combat uniforms for the armed forces.

The directives are to continue in effect until expressly revoked in writing and supersede any other WPB regulations orders, or other actions.

The committee expressed approval of this method of meeting sudden and unexpected demands upon the cotton industry for specific types of fabrics. They recommended that some similar type of action be considered for meeting the current heavy demands for camouflage netting which is used in great quantities, particularly by the land forces.

Other questions discussed by the committee were demands of Lend-Lease and other war aid agencies for cotton products, methods of increasing production despite growing manpower shortages, and the general supply and demand picture for cotton products during the remainder of 1943.

$30,000 Textile Cargo Is Stolen

A truckload of textiles, valued at approximately $30,000, and produced by the South Boston, Va., plant of Carter Fabrics Corp., was stolen recently when thieves hijacked a company truck in New York City. The shipment, fully insured, included a large quantity of parachute cloth.

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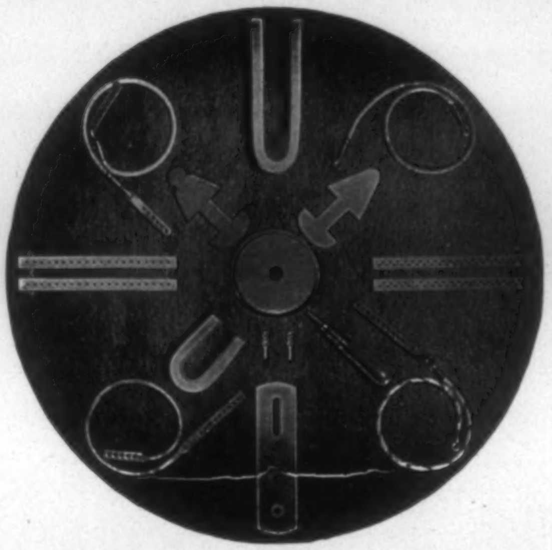

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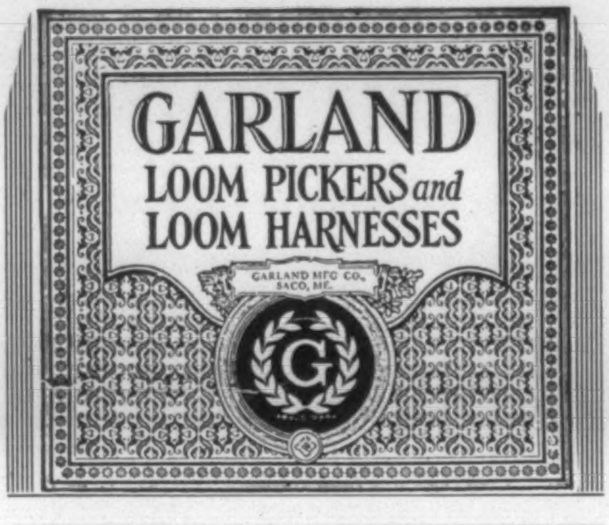
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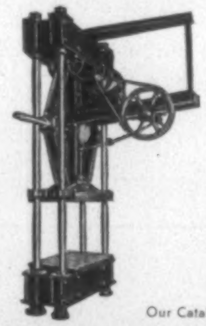
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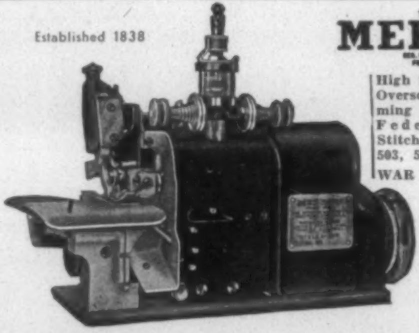
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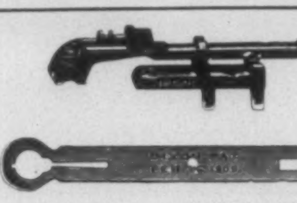
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A. A. T. C. C. Sub-Committee Is Studying Textile Finishes

The National Research Committee of the American Association of Textile Chemists and Colorists has established a sub-committee on textile finishes under the chairmanship of Kenneth H. Barnard, director of product research of Pacific Mills.

Membership in this sub-committee is being limited to qualified chemists who are experienced in the field of finishes, and they will receive the benefit of the information which is derived from the rest of the members only to the extent of their personal contribution to this work.

At a recent meeting of the sub-committee, its agenda was established and will embrace the qualitative and quantitative determination of the newer synthetic finishes to include water repellents and mildew treatments. This is in line with the request of Colonel Steadman of the Quartermaster Corps for methods to determine the amount and character of thermo-plastic resin, water repellent and mildew preventative finishes which are encountered in typical fabrics in use by the Army. The committee's first assignment is the development of a suitable technique for the handling of each of these subjects on which there is very little published information.

Selected samples of fabrics which contain a known quantity and quality of synthetic finish will be distributed among the committee members to be subjected to interlaboratory tests according to preliminary methods which have already been discussed. The results will not be published until sufficient progress has been made to permit the setting up of provisional standards and methods. So far, very little has been done in this field, but much can be accomplished, and it is hoped that this committee will be able to render a valuable contribution to the textile industry.

New Duffle Bag Is Developed

A new type of duffle bag intended for the use of troops going overseas has been developed by the Quartermaster Corps to replace the two barracks bags now issued to soldiers as standard items of equipment, the War Department reports.

The new bag was designed primarily to transport the soldier's clothing and equipment as well as articles of personal use in a single container along with the soldier himself. It has about a third larger capacity than the old bag and is similar in design to the one used by the Marine Corps, with certain refinements to improve its suitability and serviceability. A feature of its construction is a carrying strap two inches wide of heavy webbing material which permits it to be carried horizontally like a suitcase or slung from the shoulder like a golf bag.

Constructed of single-ply No. 10 duck, the heaviest available for the purpose, the bag is 37 inches high on a rectangular base 12 inches square, with a snap fastening closure at the top. Although padlocks will not be issued, it can be locked if necessary.

The color will be the dark olive drab shade, designated as OD No. 7, recently adopted as standard for summer combat clothing and items of personal equipment supplied by the Quartermaster Corps.

Manufacturers May Not Interfere With Frozen Schedules

Producers are prohibited from interfering with any frozen production or delivery schedule by eliminating, displacing or altering the precedence of any purchase order listed for production and delivery. This rule holds, unless producers are specifically authorized or directed to interfere with their frozen schedules by (1) an amendment of the frozen schedule of War Production Board, or (2) one of the outstanding special directions relating to projects having a status of 56 or better. This action was taken in Priorities Regulation No. 18, issued by the War Production Board recently.

Under the terms of this regulation, a "frozen schedule" means a production or delivery schedule approved or prescribed pursuant to Order L-215, textile, fiber, clothing and leather machinery.

The term also includes production or delivery schedules approved or prescribed under any other order which WPB may issue which specifically provides that schedules thereunder are frozen schedules.

When any such order provides that the filing of a schedule is equivalent to approval or that a filed schedule may not be varied without approval, the term "frozen schedule" means the schedule as filed with any modifications approved or prescribed by the War Production Board. When any such order requires WPB's approval of a purchase order before acceptance or delivery, the term "frozen schedule" refers to all purchase orders on the producer's books which have been so approved.

In illustration of case (2) where notification of the industry division is required, assume that a producer receives a frozen schedule from WPB, which includes a purchase order bearing a rating of AA-5. He has on his books a purchase order bearing a rating of AA-4 for another type of item not subject to a frozen schedule. If he adheres to the frozen schedule covering the AA-5 order, he will lack either materials or facilities to meet the delivery dates specified in the AA-4 order. In such case, he adheres to the frozen schedule, but immediately notifies the Industry Division which has frozen the schedule.

Friedman Joins Hart Products

Hart Products Corp., New York City, manufacturer of sulfonated oils, synthetic detergents and textile chemicals, have added to its technical staff H. Martin Friedman, B.Sc., M.Sc., as chief chemist in charge of the leather chemicals division. Mr. Friedman, who received his master's degree in chemistry from the Graduate School of New York University, was formerly with A. J. & J. O. Pilar, Newark, N. J., producers of chemical specialties for the leather trade, as head of their chemical laboratory.

A. S. T. M. Plans Annual Meeting

The 46th annual meeting of the American Society for Testing Materials will be held June 28 through July 2 at the Hotel William Penn, Pittsburgh, Pa. Fifteen technical sessions will be conducted, at which more than 100 papers and reports on materials will be presented.

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Textile Foundation Directors Hold Annual Meeting

The annual meeting of the board of directors of the Textile Foundation was held recently in Washington. Franklin W. Hobbs of Boston was re-elected chairman of the board; Frank D. Cheney of Manchester, Conn., continues as treasurer, and Edward T. Pickard as secretary and assistant treasurer. Other directors are Donald Comer of Birmingham, Ala.; Claude R. Wickard, Secretary of Agriculture, and Jesse H. Jones, Secretary of Commerce.

The work of the foundation in three principal fields of research, namely, scientific, economic and textile education, was reviewed and will be continued on an accelerated scale. Fundamental and applied projects conducted by the 14 members of the Washington staff have been wholly converted to war work. Milton Harris, the foundation's director of research, and his associates are serving on Government and industry committees and they are also conducting six or seven special researches related to the prosecution of the war.

Another highly technical but nonetheless realistic research supervised by Herbert Leaderman under the direction of Professor Edward R. Schwarz at Massachusetts Institute of Technology is being brought to a conclusion, and a 200-page report on "Textiles and the Time Factor; the Behavior of Textile Fibers" will soon be available for distribution.

Patents have been applied for covering a new chemical process under which natural wool becomes highly resistant to the ravishes of moth worms, bacteria and mildew. Arrangements are now being made looking toward the commercial development and application of the new process.

Use of Acetate Rayon Is Increasing

With increasing quantities of viscose rayon going into the manufacture of military equipment such as parachutes, tires and aerial tow targets, the supply of acetate rayon is becoming increasingly important for the manufacture of civilian clothing, Edward E. Connor, manager of acetate rayon sales for the American Viscose Corp, stated recently. As a consequence, every effort is being made to maintain production of acetate rayon at a high level.

Production of acetate rayon yarn in 1942 amounted to 169,000,000 pounds as compared with approximately 300,000,000 pounds of viscose rayon yarn, Mr. Connor said. No marked increase in output will be possible during the current year since new manufacturing equipment cannot be obtained. War uses for acetate rayon, while small, are increasing.

Acetate rayon has recently been used for the first time in women's hosiery, Mr. Connor stated, and reports indicate that these stockings are meeting with favorable customer acceptance. Principal other uses for acetate rayon have been in women's dress goods such as sharkskins and printed, combination and tricot fabrics; women's high grade satin underwear; satin and taffeta nightgowns; suit and overcoat linings; hat linings; voiles, marquisettes and ninons for window curtains; taffeta shower curtains; ribbons and men's seamless hose.

Varnished cotton cloth is among fabrics developed for electrical insulation to take the place of varnished silk.

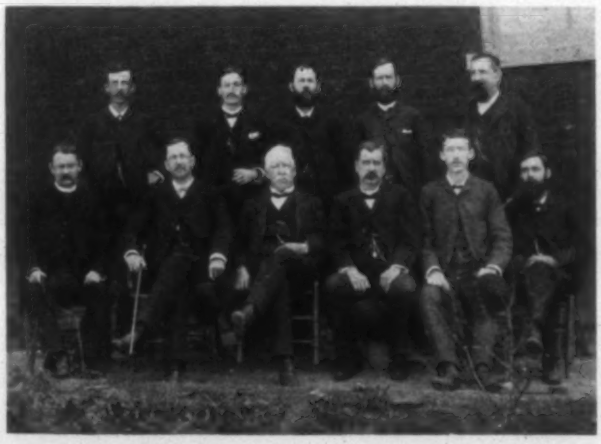
W. E. Hammond An Active S. T. A. Member For 35 Years

A pioneer textile mill man and a pioneer member of the Southern Textile Association, W. E. Hammond is now superintendent of Balfour (N. C.) Mills, Inc., a post he has held for the past 19 years.

W. E. Hammond

Mr. Hammond joined the Southern Textile Association at Spartanburg, S. C., in 1908 and since that time has been absent from annual meetings only three times. His membership in the association has been maintained vigorously during those 35 years. He states that by attending meetings of the association he has been helped greatly in keeping in close touch with what is being done in other textile plants toward making this country's textile industry the best in the world.

The subject of this sketch has been connected with textiles for 58 years since first going to work at the late Captain Ellison A. Smyth's Pelzer (S. C.) Mill No. 1 in October of 1885. In all, Mr. Hammond has been associated with the Smyth family for more than 47 years. He is now working under Ellison A. Smyth, III, who is president and treasurer of Balfour Mills, Inc.



When W. E. Hammond began his long textile career with a job at Pelzer (S. C.) Mill No. 1 in 1885 he started under the late Captain E. A. Smyth. The bewhiskered gentlemen in this picture made in 1888 were executives of the mill. Front row, left to right, T. D. Lebby, secretary; Captain Smyth, president; Stephen Clark, superintendent; Thomas Seddon, overseer of spinning; Lee Blake, paymaster; and Albert Wood. Back row, left to right, W. A. Blake, overseer of outside department; A. M. Lander, overseer of cloth room; B. F. Guy, overseer of weaving; Eugene Owens, stenographer; and Walter Cameron, master mechanic.

He has held the following positions since 1904: overseer of carding at Mills Mill, Greenville, S. C., 1904-07; overseer of carding, Pelzer Mills Nos. 1, 2 and 3, 1907-16; superintendent of Mills Mill, Greenville, 1916-22; superintendent of Hermitage Mills, Camden, S. C., 1922-24; superintendent of Lancaster (S. C.) Mills a short while before going to Balfour Mills.

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AKRON BELTING CO., THE, Akron, O. Sou. Reps.: Ralph Gossett and Wm. J. Moore, 15 Augusta St., Greenville, S. C.; The Akron Belting Co., 406 S. 2nd St., Memphis, Tenn.

ALLEN CO., 440 River Road, New Bedford, Mass. Sou Repr.: L. E. Wooten, Fort Mill, S. C.

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AUFFMORDT & CO., C. A., 468 Fourth Ave., New York City. Sou. Rep.: George B. Wilkinson, 613 Johnston Bldg., Charlotte, N. C.

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